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Evaluation of Texas Air Control Board Management and Operations Systems Requirements Part II: Appendices to the Part I Report

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Arlington, TX

Prepared for

Environmental Protection Agency
Dallas, TX

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Evaluation of Texas Air Control Board Management/Operation Systems Requirements

Part 2

Final

Appendices

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16. ABSTRACT

The purpose of this report is to provide information for the design of management and operations systems to effectively implement and control the collection, storage, verification, and dissemination of emissions inventory information within the Texas Air Control Board (TACB). Part II includes three appendices to the Part I report:

- °Appendix I - Emissions Inventory Data Requirements and General Collection Methodology,
- °Appendix II - Emissions Inventory Data Dictionaries, and
- °Appendix III - List of Phase II Interviewees

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EVALUATION OF TEXAS AIR CONTROL BOARD MANAGEMENT AND OPERATIONS SYSTEMS REQUIREMENTS

PART II
APPENDICES TO THE PART I REPORT

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Task Order 17

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DISCLAIMER

This report has been reviewed by Ruth Tatom, Environmental Protection Agency, and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

GENERAL INFORMATION

The appendices contained in this document summarize the efforts of Arthur Young and Company and PEDCo Environmental, Inc., in the performance of Phase II of U.S. Environmental Protection Agency (EPA), Contract No. 68-02-2535, Task 17, entitled, "Evaluation of Texas Air Control Board Management and Operations Systems Requirements". The general purpose of this document is to: (1) present an overview of an emissions inventory data management system, (2) describe the data collection methods to support both existing TACB operations and anticipated EPA future mandates, and (3) describe by means of data dictionaries, the data required for the emissions inventory management.

The three appendices, which follow this general introduction and the executive summary, are:

- Appendix I - E.I. Data Requirements and General Collection Methodology,
- Appendix II - E.I. Data Dictionaries, and
- Appendix III - List of Phase II Interviewees

EXECUTIVE SUMMARY

The purpose of the second phase of the Emissions Inventory (E.I.) management/operations system development project is to clarify the needs for source and emmissions data in various areas of Federal and State activities, develop data dictionaries for specific elements of required information, and recommend a general collection methodology.

This systems development project is a joint Texas Air Control Board (TACB) and Environmental Protection Agency (EPA) effort funded and directed by EPA's regional office in Dallas. Arthur Young and Company (Austin office), under the general direction of PEDCo Environmental, Inc. (prime contractor), had primary responsibility for conducting work activities in the second phase.

The activities requiring source and emissions data are National Emissions Data System (NEDS) reporting, TACB regional enforcement, compliance, control strategy development, emissions validation, Reasonable Further Progress (RFP) reporting, State Implementation Plan (SIP) development and revision, and Prevention of Significant Deterioration (PSD) support. The activities and support requirements are summarized in an information matrix included as part of the report. The general collection methodology includes recommendations for both point and area sources, establishing the initial inventory, and maintaining validation and update capabilities. Complete data dictionaries, specifying qualifications for data elements, are attached as Appendix II.

Organizations contacted to examine both support requirements and potential for contributing to the data collection, update, and validation process include:

1) both EPA Region VI and national offices,
2) Dallas, Fort Worth, Houston, San Antonio, and Galveston local air pollution control agencies,
3) the Houston-Galveston Area Council,
4) industrial representatives from major emission sources,
5) other state agencies which had indicated that they maintain potentially useful information, and
6) divisions, sections, and regional offices within the TACB conducting activities relying on or pertaining to source and emissions data collection efforts.

In the examination of data needs specified by activity, the categories of information required are described. Data needs divide into two basic areas, emissions data and supporting process information, with the extent of detail and use generally characterizing the different activities. For example, NEDS reporting primarily requires emissions information while regional enforcement and control strategy development activities require supplemental process information to effectively carry out their objectives. Catering to different activity requirements can, in most instances, be accomplished with one limited database by allowing for extensive output flexibility.

Specific areas of concern addressed and recommendations presented in the report are:

RFP Reporting - No specific reporting of data verification requirements have been provided by EPA. The database to support NEDS can support RFP reporting and specialized outputs can be created by flagging the plants or facilities being tracked. A complete and accurate status report probably cannot be produced efficiently prior to compilation of the calendar year 1980 inventory.

5

PSD Support - Again, a database no more extensive than NEDS can probably accommodate establishing a baseline inventory and recording increment consumption if the affected plants and facilities are flagged accordingly. Sort routines can be developed to provide information to permit applicants for existing plants within a 50 km radius of their potential site location. Coordination with the Permits Division for this (and other) E.I. activities is essential to consolidate the permit and emission point numbering systems.

SIP Development - Special modelling applications are required of Harris County data for 1982 SIP revisions. City-specific EKMA model requirements can be accommodated with a NEDS type database. The possibility of aggregating city emissions can be covered by tailoring output formats. The "Level I" photo-chemical dispersion modelling requires:

1) each emission point to be located to 0.1 km,
2) hour by hour operation rates for "24-hour typical day in the oxidant season," and
3) hydrocarbon speciation (no specific guidelines are yet available from EPA); further:
    a) species used are model specific,
    b) "split factors" are model specific,
    c) small sources can use "split factors," and
    d) large sources must test for specific species breakdown.

Confidential Information - Industry concerns center on the level of detail required rather than the basic question of confidential data submittals. Simple block process diagrams indicating basic process steps should be submitted; detailed material balance information is not needed. Additional material storage and transfer information, waste disposal data, fuel use data, and fugitive loss information can be supplied in sufficient detail to support automated audit procedures. Where there is a question of whether the level of detail being supplied is sufficient or not, the regional staff can verify operations descriptions by on-site inspections.

Source and Emissions Questionnaires - Questionnaire format should not differ significantly form the 1975 questionnaire; however:

1) there should be clearer instructions (regional staff and local agencies should be surveyed for clarification needed),
2) specific definitions should be provided,
3) fugitive emissions estimating procedures should be specified,
4) alternate reporting formats should not be acceptable,
5) descriptions of update procedures should be included, and
6) the questionnaires should be directed through the regional offices.

1980 Inventory - Industry can respond effectively (and cooperatively) if given enough lead time. Both industrial representatives and regional staff agree that "Level I" type information be collected in 1980 if possible. This would give regional staff time to audit the information, especially during SIP investigations, producing higher audit accuracy in a more cost efficient manner for the required 1981 database.

Regional Staff Involvement - During the initial (calendar year 1980) inventory, the questionnaires should be directed through the regional offices. They should be able to provide review and validation support, maintain confidential process information in their files for audit and inspection purposes, and update the inventory in subsequent years during SIP investigations. The E.I. Section staff could routinely provide computer formatted inventory sheets suitable for updates during investigations to both the sources and the regional staff. The possibility of future questionnaire efforts could probably be eliminated once the annual regional update process was established.

Compliance and Permits System (CAPS) - The status of current and projected development activities proclude E.I. reliance on CAPS during the 1980 inventory effort.

APPENDIX I

E.I. DATA REQUIREMENTS
AND
GENERAL COLLECTION METHODOLOGY

INTRODUCTION

This Appendix is provided to summarize detailed data requirements inferred in the body of the report and address specific considerations and procedures for collecting data. The Appendix was prepared in support of the report but for those familiar with the purposes of an Emissions Inventory (E.I.) it can be considered a stand-alone document. Two primary sections follow the Introduction.

- E.I. Data Requirements - Section I
  - Section Overview
  - Narratives of Activities
    - National Emissions Data System (NEDS) Reporting
    - Regional Office/Compliance
    - Control Strategy
    - Emission Validation
    - Reasonable Further Progress (RFP)
    - City-Specific Empirical Kinetic Modelling Approach (EKMA) Model
    - Photochemical Oxidant Model
    - Prevention of Significant Deterioration (PSD)
- General Collection Methodology - Section II
  - Point Sources
    - Establishing the Initial E.I.
    - Updating the E.I.
    - Cross-checks and Validation of E.I. Data
  - Area Source
    - Establishing the Initial E.I.
    - Updating the E.I.

Rapidly changing demands on the E.I. by both Federal programs and State Air Control activities have necessitated a consolidated information format that can accommodate changes. Changes known to Arthur Young & Company as late as 6/30/80 have been included herein. We do not feel this is a final document, in fact, it is designed to be a "living document" and should be modified and maintained as the E.I. is developed.

To establish the data requirements and collection methodologies presented herein required interviewing personnel from the following organizations:

- Texas Air Control Board (TACB)
  - Emission Inventory Section
  - Permits Division
  - Data Processing
  - Control Strategy Division
  - Compliance Division

- TACB Regional Offices
  - Houston
  - Ft. Worth

- EPA Region VI
  - Surveillance and Analysis Divison
  - Air Programs

- EPA - Research Triangle Park
  - Monitoring/Data Analysis Division
  - Standards Implementation Branch
  - Technology Service Corporation (independent)

- Local Agencies
  - Dallas
  - Ft. Worth
  - Houston
  - San Antonio
  - Galveston County

- Metropolitan Planning Organization (MPO)
  - Houston-Galveston Area Council (HGAC)

- Industry
  - Dupont
  - Exxon
  - Shell

- Texas House Bill 793 Letter
  - Texas Aeronautical Commission
  - State Highway Department
  - Comptroller's Office
  - Public Utilities Commission

Specific names of contacts are shown in Appendix III. Other material used is referenced in the text.

SECTION I

E.I. DATA REQUIREMENTS

Section Overview

The purpose of this data requirement section is to provide a consolidated overview of detailed data required to support TACB operations and adopted federal programs. Our report identified the following activities as those required to support the E.I. or requiring E.I. support:

- National Emissions Data System (NEDS) Reporting
- Regional Office/Compliance
- Control Strategy
- Emission Validation
- Prevention of Significant Deterioration (PSD)
- Reasonable Further Progress (RFP)
- City-Specific Empirical Kinetic Modelling Approach (EKMA) Model
- Photochemical Oxidant Model

In many cases, the specific data elements required to support one activity are common to those required to support others. Exhibits A-1 through A-16, following the Section Overview, are matrices of data elements required by activity. To facilitate review, a data categorization scheme was adopted similiar to that developed for NEDS reporting. The data elements listed in these exhibits are further defined by data dictionaries in Appendix II which provide details concerning:

- sources of information and aliases
- size and type of the data field
- general description of elements
- valid values
- justification for need
- pertinent comments

The activities presented across the top of the matrices are defined following the exhibits. Activity narratives were included to provide a justification of need for general categories of data and are described in the E.I. Support Requirements section of each activity narrative. The requirements were included to be reviewed, changed as needed, and approved.

In addition, data gathering procedures, if unique to the activity, were also described in the Collection Methodologies section of each narrative.

This section provides a forum to elaborate on special data collection issues which are actually exceptions to a generalized collection methodology. Activities requiring additional collection methodology discussion include:

- Emissions Validation (Process Data)
- PSD
- RFP
- Photochemical Oxidant Model

Issues described in this section supplement the General Collection Methodology Section included later in this Appendix.

The Data Requirements Section is developed and formatted to support the E.I. conceptual design effort. The procedures used to develop this information have identified important sets and subsets of data. In a sense, the data categorization presented in the Exhibit A-1 through A-16 matrices represent a preliminary conceptual file design. However, the following other factors overlay each data category or element and must also be considered in conceptual design:

- Activities requiring common data elements may affect requirements according to:
    - sources of interest, i.e., major point, minor point, or area
    - pollutants of interest, i.e., any of criteria or hazardous pollutants
    - geographical area of interest, i.e., attainment areas or non-attainment areas, and countywide or gridded identification
    - time frame of interest, i.e., historical, present, or projection data
- Activities have varying data update requirements
- Activities have different output format requirements, including manipulation of data (algorithms) prior to output.

(We note that definitions of major source and minor source emitters are those currently used by the TACB E.I. Section. Major sources emit greater than 100 Tons per Year (TPY) and minor sources emit greater than 10 TPY of any criteria pollutant.)

Basic data requirements and important conceptual design considerations are described in each activity narrative and in the General Collection Methodology Section. Many data support requirements can be satisfied utilizing subsets of data required for NEDS; however, for other activities mutually exclusive sets of data are required. Activity data requirements, summarized below, build from a subset of data and collection methodology required to support point and area source NEDS reporting.

- NEDS Reporting - Emissions data for major point sources are required for all areas of Texas to support NEDS reporting. In addition, area source emissions will also be estimated at a countywide level. For these sources, collection of data at a level of detail similiar to the 1975 questionnaire will be necessary and require annual updates to identify emissions changes of ±5%.

  Data categories required for point source reporting are primarily location, identification, emissions and control equipment data. Process data is generally used to establish reasonableness of reported emissions. Area source aggregrated emissions are necessary on a countywide basis.

  General areas of interest are all criteria pollutant emissions in all Texas counties. The time frame of interest includes present and previous year emission data so an emissions change can be quantified. This effort requires an annual update. Formats for reporting are established by EPA.

- Regional Offices/Compliance - Compliance investigations and strategies development require major and minor point source information similiar to that required for NEDS. However, the importance of process data gains new emphasis in support of strategies development. Process data is used to prioritize enforcement efforts since recent regulations address process quantities in many cases, as opposed to emissions levels.

General areas of interest are point source emitters of pollutants in excess of the standards. Present data is required. This can potentially encompass all pollutants in any Texas county. Sources of interest are all point sources subject to TACB regulations. Compliance has identified its greatest need as being older unpermitted facilities since data on permitted facilities is available through Compliance and Permits System (CAPS). Data required by Compliance is generally point specific, process specific, and pollutant specific.

- Control Strategy - Strategy and regulation development requires emissions data for major and minor point sources, stationary area sources and mobile sources. Process data is also important to strategy development as in the case of Regional Office/Compliance activities. In the past, strategies have been directed at major point source emitters in non-attainment areas. The future will see increased efforts to control minor point, stationary area and mobile sources.

  Therefore, Control Strategy has potential areas of interest in all sources of any criteria or hazardous pollutant. Geographical areas of interest are potentially any region in Texas, although non-attainment areas are emphasized. Pertinent data on emissions from these should provide both current and future projection information.

  Control strategy development probably has the largest potential E.I. support requirements of any activity identified. Updates of this information should be made with regard to the priorities suggested in Chapter VI of this report. Ad hoc reports are required and may be pollutant specific, location specific, process specific or any combination thereof.

- Emission Validation - Validating reported emissions levels involves the sensitive issue of collecting process data. However, as identified above, process data is required for several other purposes and collection is, therefore, necessary. Process data requirements beyond that discussed are not needed. A separate activity narrative was included in this appendix solely to address this sensitive issue.

- PSD - Data required to support PSD modelling includes major and minor point source data, and to a lesser extent, area sources. Of primary concern is point source data which identifies plant location, stack spatial coordinates and Total Suspended

Particles (TSP) and Sulphur Dioxide (SO_2) emissions levels. This data is normally collected to support NEDS reporting.

An additional qualification is that sources have to be identified as either baseline contributing or increment consuming sources. Increment consuming sources are of concern for modelling purposes. Normally these sources can be best identified based on permitted construction and operating dates available through Permits or the PM04 (CAPS II) system.

General areas of interest are point source and area source emitters of TSP and SO_2 in attainment areas. Current data is required on actual emission levels. Annual updates of data to meet NEDS requirements should be sufficient to satisfy PSD modelling.

E.I. capabilities to identify increment consuming point sources and to sort and display by area of impact are most critical PSD conceptual design considerations.

- RFP - Data required to meet RFP reporting requirements are changes in Volatile Organic Compounds (VOC) and Carbon Monoxide (CO) emission levels from all sources in a non-attainment area. TSP RFP can generally be determined based on implementation of control strategies at specific sites and do not require E.I. data. VOC and CO RFP data requirements can be met based on data collected to meet NEDS reporting requirements.

  Areas of interest are then pollutant specific for VOC and CO emissions levels. Actual emissions level estimates are preferred but allowable emissions level estimates are acceptable. Point, stationary area and mobile sources should be considered where they contribute significantly to VOC and CO emissions in non-attainment areas.

  Point source increases can result from 1) newly permitted sources (although limited in NAA's) and 2) increases in actual emissions due to allowable changes in operating conditions. Point source decreases can result from compliance schedule implementation or voluntary shutdowns. E.I. capabilities to identify and calculate emission changes based on past and present year data will be an important conceptual design consideration.

- City-Specific EKMA Model - This model is used to support control strategy development for VOC and Nitrogen Oxide (NO_x) emissions primarily in non-attainment areas. The modelling effort can be supported by data collected to meet NEDS reporting requirements.

Areas of interest geographically will be urban centers with high VOC and NO_x emissions. In general emissions can be aggregated at the county level and refined by identifying city-core emissions levels. Primary sources of interest will be all point sources, mobile sources and specific area sources within the area. Current and projected emissions levels would be needed to test alternative control strategies. No temporal resolution or speciation of NO_x or VOC is required for emissions data input to the model.

E.I. should incorporate capabilities to sort emissions by pollutant and by area and aggregrate emissions at the county level. This does not exceed E.I. capabilities required to support other Control Strategy activities.

- Photochemical Oxidant Modelling - This modelling effort is a refinement of the City-Specific EKMA model. Basically the same E.I. support will be required with the following exceptions:

  - Area emissions must be spatially resolved within a 1 to 5 kilometer grid system and point source emissions should be located based on Universal Transverse Mercator (UTM) coordinates.

  - Emissions must be specified on an hour-by-hour basis for a 24 hour typical day in the oxidant season.

  - NO_x and VOC emissions must be classified by species (as yet undetermined).

  Currently, the area of interest geographically is the Houston area. The Level I data collection effort to support this model has been specified as a prerequisite to the 1982 State Implementation Plan (SIP) by EPA. The modelling effort itself will require current and accurate emission data on VOC and NOx and should encompass all point, stationary area and mobile sources in the Houston area.

  At this time, this is projected to be a one-time effort. However, these refinements represent a new level of E.I. detail and will require additional capabilities. E.I. conceptual design must consider methods of handling data to minimize these one-time storage requirements. Algorithms supported by cross-reference tables are viable considerations to resolve emissions spatially and temporaly and apply VOC and NO_x split factors appropriate for the model input.

These data requirements for activities are discussed in greater depth at each of the activity narratives. The need review and modify these requirements to upgrade accuracy and completeness is reiterated. Exhibits A-1 through A-16 follow this page.

Exhibit A-1

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Date:

Page 2 of 2

Data Category **PLANT IDENTIFICATION**

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
SIC Code	x^1	x						x	1
Permit Number	x^1	x			x			x	2
Permit Issue Date		x			x			x	2
Start Construction Date		x			x			x	2
Start Operation Date		x						x	2
PSD Flag		x						x	1

Exhibit A-2

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category GENERAL IDENTIFICATION & STACK DATA

Date:

Page 2 of 2

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Point Source Card Code *				x					1
Stream Composition		x	x				x		3
Mol. Wt.			x				x		3
Concentration Rate (by pollutant)			x				x	x	3
Gas ACFM (70 F)	future		x						3
Particulate Lb/hr	future		x						3
% Fines	future		x						3
Total Flowrate (tons/yr)	future	x	x				x		3
% Design Capacity	future	x	x						3
Pollutant Code	future		x						2

Exhibit A-3

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category CONTROL EQUIPMENT DATA

Date:

Page 2 of 2

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					SOURCE: 1. E.I.Assignment 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Point Source Code *				x					1
Point Source Card Code *				x					1
Pollutant Controlled	x^1	x							3
Date Installed	x^1	x							3
Operating Cost	x^1								3
Energy Consumed	x^1								3
Energy Units	x^1								3
Total Installed Cost	x^1								3

x^1 - indicates site specific control strategies * common file information- data dictionaires shown at the Plant Identification file.

Exhibit A-4

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category **EMISSIONS DATA**

Date:
Page 2 of 2

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assignments 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Method of estimating CO Emissions			x				x		2,3
Emission Point Type	x								3
Stack emission estimates	x	x							3
Fugitive emission estimates	x	x							3
Hazardous Materials and Volatile Organic Solvents Emissions		x							3

Exhibit A-5

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category COMPLIANCE

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
State Code *				x					1
County Code *				x	x	x	x	x	2
AQCR Code *	x			x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Point ID Number in Plant *		x	x	x					2,3
Year of Record *		x	x	x	x	x	x	x	3
Allowable Emissions - Particulate T/yr	x	x		x	x			x	2
Allowable Emissions - SO_2 T/yr	x	x		x				x	2
Allowable Emissions - NO_x T/yr	x	x		x				future	2
Allowable Emissions - HC T/yr	x	x		x	x			future	2
Allowable Emissions - CO T/yr	x	x		x	x			future	2
Source Compliance Status	x	x		x	x				2
Year Source must be in compliance (only if Compliance Status = 2,3)	x	x		x	x				2
Month Source must be in compliance (complete only if Compliance Status = 2,3)	x	x		x	x				2
Year of Compliance Status Update	x	x		x	x				2
Month of Compliance Status Update	x	x		x	x				2
Day of Compliance Status Update	x	x		x	x				2
Action Code *		x		x					1
Point Source Code *				x					1
Point Source Card Code *				x					1

* common file information - data dictionaires shown at the Plant Identification file

Exhibit A-6

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category OPERATING DATA

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
State Code *				x					1
County Code *				x	x	x	x	x	2
AQCR Code *				x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Point ID Number in Plant *		x	x	x					2,3
Year of Record *		x	x	x	x	x	x	x	3
SCC	x			x					2
Fuel, Process, or Solid Waste Operating Rate		x	x	x					3
Maximum Design Rate			x	x					3
Sulfur Content %	x	x		x					3
Ash Content %	x	x		x					3
Heat Content Btu		x		x					3
Comments				x					3
Source				x					1
Action Code *		x		x					1
Point Source Code *				x					1
Point Source Card Code *				x					1

* - common file information - data dictionaires shown at the Plant Identification file

Exhibit A-7

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category WASTE DISPOSAL

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assignments 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Combustion Method		x	x						3
Quantity burned		x	x						3
Units burned		x	x						3
Material Combusted		x	x						3
Burn Schedule, Dec., Jan., Feb.		x	x						3
Burn Schedule, March, Apr., May		x	x						3
Burn Schedule, June, Jul., Aug.		x	x						3
Burn Schedule, Sept., Oct., Nov.		x	x						3
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number	x	x	x	x	x	x	x		2
Year of Record*		x	x	x	x	x	x	x	3
Point ID Number in Plant*		x	x	x					2,3

* - common file information - data dictionaires shown at the Plant Identification file

Exhibit A-8

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category FUEL DATA

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assignments 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Type of Unit	x	x	x						3
Total Boiler Design Capacity				x					2,3
Type of Fuel Consumed	x	x	x						3
Quantity of Fuel	x	x	x						3
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number*	x	x	x	x	x	x	x		2
Year of Record*		x	x	x	x	x	x	x	3
Point ID Number in Plant*		x	x	x					2,3

* - common file information - data dictionaires shown at the Plant Identification file.

Exhibit A-9

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category STORAGE TANK

Date:

Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assign-ments 2. CAPS 3. E.I.Question-naire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level 1)	PSD Modelling	SOURCE
State Code *				x					1
County Code *				x	x	x	x	x	2
AQCR Code *	x			x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Point ID Number in Plant *		x	x	x					2,3
Year of Record *		x	x	x	x	x	x	x	3
Material Stored	x	x							3
Pollutant Breakdown		x							3
Monthly Thruput		x							3
Pollutant Code			x				x		2
Volume %			x				x		3
Type of Tank Construction	x	x	x				x		3
Capacity (in 1000s of gal.)	x	x	x				x		3
Diameter (feet)			x				x		3
True Vapor Pressure (PSIA)	x	x	x				x		3
Vapor Molecular Weight		x	x				x		1
Control Pressure (PSIG)			x				x		3
Color code	x		x						3
Paint Condition	x		x						3
Average Outage (feet)			x				x		3
Action Code *		x		x					1
Point Source Code *				x					1
Point Source Card Code *				x					1

* - common file information - data dictionaires shown at the Plant Identification file.

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Exhibit A-10

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category VOC TRANSFER

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assignments 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
State Code *				x					1
County *				x	x	x	x	x	2
AQCR Code *				x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Point ID Number *		x	x	x					2,3
Year of Record *		x	x	x	x	x	x	x	3
Pollutant Code **			x				x		2
Vapor Molecular Weight **		x	x				x		1
True Vapor Pressure (PSIA) **	x	x	x				x		3
Liquid Temperature (°F)			x				x		3
S Factor			x						3
Type of Transfer	x	x	x				x		3
Monthly Throughput **		x	x				x		3
Name of meterial	x	x	x						3
Type efficiency of Vapor Control Equipment	x	x							3
Efficiency of Vapor Control Equipment	x	x	x						2,3
Vapor Loss	x	x	x						2,3
Action Code *		x		x					1
Point Source Code *				x					1
Point Source Card Code *				x					1

* - common file information - data dictionaries shown at the Plant Identification file   ** - common file information - data dictionaries shown at the Storage Tank data fil

Exhibit A-11

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category **DEGREASING DATA**

Date:
Page 1 of 1

	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
DATA ELEMENT	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number*	x	x	x	x	x	x	x		2
Point ID Number in Plant*			x	x	x				2,3
Year of Record*		x	x	x	x	x	x		3
Solvent Purchased			x						3
Solvent Reprocessed			x						3
Solvent Density			x						3
Action Code*		x		x					1
Point Source Code*				x					1
Point Source Card Code*				x					1

* Common file information - data dictionaries shown at Plant identification file

Exhibit A-12

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category SURFACE COATING DATA

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assign-ments 2. CAPS 3. E.I.Question-naire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number*	x	x	x	x	x	x	x		2
Point ID Number in Plant*		x	x	x					2,3
Year of Record*		x	x	x	x	x	x	x	3
Pollutant Code**			x				x		2
Fugitive Amount (T/Y)	x		x				x		3
Solvent in Coating (wt. %)		x(1)	x						3
Quantity Used	x	x(1)	x						3
Type of paint/ink	x	x(1)	x						3
Action Code*		x		x					1
Point Source Code*				x					1
Point Source Card Code*				x					1

(1) Regional staff have indicated they do not need this data unless painting is the primary business of the source

* Common file information - data dictionaries shown at the Plant Identification file
** Common file information - data dictionaries shown at the storage tank data file

Exhibit A-13

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category **PROCESS FUGITIVE DATA**

Date:
Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I.Assignments 2. CAPS 3. E.I.Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Pollutant Code**	x	x	x		x		x		3
Fugitive Amount (T/yr)**	x	x	x		x		x		3
Source			x		x		x		3
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR *	x			x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Year of Record*		x	x	x	x	x	x	x	3
Point ID Number in Plant*		x	x	x					2,3

** Common data element - data dictionary shown at the "Storage Tank Data" file

* - common file information - data dictionaires shown at the Plant Identification file.

Exhibit A-14

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Date:

Page 1 of 1

Data Category PROCESS DATA

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance / Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Process Name/Description		x	x					x	3
Maximum or Design Production Capacity (per hr.)		x	x					x	3
Operating Rate - Dec.-Feb.		x	x				x	x	2,3
Operating Rate - March-May		x	x				x	x	2,3
Operating Rate - June-August		x	x				x	x	2,3
Operating Rate - Sept.-Nov.		x	x				x	x	2,3
Operating Schedule Dec.-Feb.		x	x				x	x	2,3
Operating Schedule - March-May		x	x				x	x	2,3
Operating Schedule - June-August		x	x				x	x	2,3
Operating Schedule - Sept.-Nov.		x	x				x	x	2,3
Material Feed/Quantity (Raw Material Used)		x	x						3
Process Product/Quantity (Product Manufactured)		x	x						3
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number*	x	x	x	x	x	x	x		2
Year of Record*		x	x	x	x	x	x	x	3

* common file information - data dictionaires shown at the Plant Identification file

Exhibit A-15

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category PROJECTION DATA

Date:

Page 1 of 1

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Projection of Expansion	x	x							3
Projection of Process Change	x	x							3
Conversion to Alternate Energy Source		x							2,3
Process Unit Permanent Shutdown Date	x	x							2,3
Process Unit Permanent Shutdown	x	x							2,3
Change in Abatement Equipment		x							2,3
Date of Change		x							2,3
		(Regional staff have indicated that they do not use Projection Data)							
State Code*				x					1
County Code*				x	x	x	x	x	2
AQCR Code*	x			x	x	x	x	x	1
Plant ID Number *	x	x	x	x	x	x	x		2
Year of Record *		x	x	x	x	x	x	x	3

* common file information - data data dictionaries shown at the Plant Identification file

Exhibit A-16

TACB EMISSIONS INVENTORY DATA REQUIREMENTS

Data Category AREA SOURCE DATA

Date:

Page 2 of 2

DATA ELEMENT	TACB OPERATIONS			SUPPORT OF FEDERAL PROGRAMS					1. E.I. Assignments 2. CAPS 3. E.I. Questionnaire
	Control Strategy	Compliance/ Reg. Offices	Emissions Validation	NEDS Reporting	RFP Reporting	City Specific EKMA Model (Level III)	Oxidant Model (Level I)	PSD Modelling	SOURCE
Unpaved roads, miles (U/R)	x		x						
Paved roads, vehicle mile traveled on pavement	x		x						
State Code*				x					1
County Code*				x	x	x	x	x	2

* - common file information - data dictionaries at the Plant Identification file

CONTROL STRATEGY

The Control Strategy Division is responsible for developing strategies for the control of air contaminant emissions, and implementing strategies through legally enforceable regulations sufficient to safeguard state air resources as defined by the national ambient air quality standards and the Texas Clean Air Act. This division recommends revisions to agency rules, regulations or strategies in response to changes in State and Federal laws or rules. Specific activities of the Control Strategy Division and the legal mandates guiding these activities are discussed in Section 5 of the Phase I report.

E.I. Data Requirements

The Control Strategy Division primarily needs total emissions data aggregated by county and sorted by pollutant and industry to support control strategy development activities. The aggregated emission data from nonattainment areas would include the following emissions for the pollutants:

- Point source emissions greater than 10 tons/year for:
    - NO_2
    - SO_2
    - PA
    - VOC
- Point source emissions greater than 100 tons/year for:
    - CO
- Point source emissions greater than 1 ton/year for:
    - Lead

Initially major point source emissions will be of interest with the exception of the Houston area where minor VOC sources will also be required. For other criteria pollutants, collection of emission data for minor sources will become increasingly important in the future.

In addition, the Health Effects Section conducts research to determine if an air contaminant constitutes a health hazard to people. Collection of the following emissions data would be used to support these research activities:

- Point source emissions greater than published EPA de minimus levels for:

  Carbon Disulfide
  Carbon Sulfide

- Point Source emissions greater than 1 ton/year for:

  Asbestos
  Sulfuric acid mist
  Viny Choloride mist
  Hydrogen sulfide
  Methyl Mercaptan
  Dimethyl Disulfide
  Dimethyl Sulfide
  Mercury
  Florides
  Beryllium

Emissions data to support health effects strategy development will be required on a case-by-case basis. Data needed should be requested by area, by source and/or by specific toxic compound.

The Control Programs Development Section and Emissions Standards and Engineering Section identified the following general categories of data:

- Plant Identification: Generally Control Strategy does not use site specific information. E.I. does need to have the capability to summarize emissions data by Standard Industrial Code. This division may have a need in the future for more data in this category if they develop site specific control strategies.

- Control Equipment: Aggregate data used to calculate reductions in emissions may be affected by changes in control equipment and will be used to analyze cost of regulations.

- Emissions Data: Data on total emissions by county by industry and type of source is used to analyze effectiveness of alternative control strategies.

- Storage Tank Data: Used to analyze effects of regulations on different types of storage tanks.

- VOC Transfer Data: Used to analyze effect of regulations on different types of VOC transfer processes.

- Surface Coating and Degreasing: Used to anlayze effect of alternate control strategies.

- Fugitive Data: Not currently used. Will be used in the near future as the agency moves to develop strategies to control fugitive emissions.

- Projection Data: Used to calculate potential changes in total emissions.

- Area Source Data: Total emissions for criteria pollutants for non-attainment counties are used to calculate effect of control strategies on certain pollutant emissions. Exhibit A-16 presents the data that is currently collected in the area source inventory. That data constitutes the minimum data that must be collected to support Control Strategy development.

E.I. data required to support Control Strategy activities does not exceed data needed for NEDS point source validation and reporting and NEDS area source reporting. Control Strategy requirements for existing emissions inventory data can be generalized as requests for tabulation or indexing of emission, process, and/or control data according to some specified set type or level of emissions, geographical area, etc. At one extreme for example, a request may be made for the Emissions Inventory Section to provide emissions data on a specific facility or source in order to support development of site specific control strategies. At the other extreme, the Emissions Inventory Section may be requested to provide a statewide summary of total emissions of a given material support SIP development. At a minimum the emissions inventory should have the capability to tabulate emissions by pollutant, county, source type and control strategy type.

DATA COLLECTION METHODOLOGY

No special collection methodologies will be required beyond those required for NEDS reporting and described in the General Collection Methodologies Section.

NEDS

E.I. Data Requirements

TACB will report point source emissions changes of ±5% to the National Emissions Data System (NEDS) annually. The annual emissions update is submitted to National Air Data Base (NADB) on coding sheets. Each page of the NEDS Point Source Data Form represents a category of data. The following categories are prescribed by NEDS and presented in AEROS Manual Series, Volume II, AEROS User's Manual, U.S. Environmental Protection Agency, Office of Air and Waste Management, Research Triangle Park, N.C. EPA-45012-76-027:

- Plant Identification - Identifies and locates a facility that has been determined to be a point source.
- General Identification and Stack Data - Provides stack data and identifies and locates emission points.
- Control Equipment - Provides information on boiler design capacity, control equipment and estimated control equipment efficiency.
- Emission Data - Provides operating information and actual emissions estimates by emission point on a seasonal, monthly and time of week basis.
- Compliance Analysis - Provides allowable emissions and compliance schedule data for each source.
- Operating Data - Provides operating characteristics of the source including data on processes, fuel, and solid waste.

In addition to these prescribed data categories, the Emissions Inventory Section of TACB has identified five additional classes of data that would be required to validate the point source data submitted to NEDS. These data categories are discussed in the Emissions Validation section of this Appendix.

While point source emission changes are reported annually, TACB does not presently submit an area source emissions report. Area sources, because of their small size, large number, and difficulty to survey, create emissions which are generally estimated based on surrogate factors such as population, VMT, and acres of land under agricultural production.

Area source emissions are estimated by the EPA to complete the NEDS inventory and are generally based on nationally published data allocated by geographic factor or population for an area. TACB estimates area source emissions on an as needed basis to satisfy internal requirements such as control strategy development. TACB's estimates are generally based on locally available data. Recently, discrepancies between EPA and TACB area source emissions estimates have led to disagreements as to the contribution of these sources to ambient air quality, particularly in non-attainment areas. TACB's desire to improve the EPA's area source emissions estimates in Texas, implies all or part of the area source emissions should be developed directly by TACB from locally available data and reported to the EPA. To satisfy this objective, major categories of area source data needed for NEDS reporting are:

- Area Identifiers - Identifies the state, county, AQCR, and year of record for the area source data.
- Total Emissions Estimates - Records emissions estimates in hundreds of tons per year for each of the major criteria pollutants.
- Stationary Source Fuel Use - Data used to calculate emissions of particulates and sulfur oxides from stationary source fuel use.
- Solid Waste Disposal Operations - Data used to calculate emissions from on-site incineration and open burning.
- Gasoline and Diesel Fuel Use - Since mobile sources usually account for a majority of the CO, NO_x and hydrocarbon emissions, it is necessary to obtain estimates of mobile source activity.

- Miscellaneous Sources - Miscellaneous sources are characterized by intermittent emissions. This means that even though the total emissions contributed by these sources may be relatively small, on particular days their contributions to the total emissions can be quite significant.
- Comments - Comments necessary to explain figures or data entries in other sections.

Specific data descriptions for this data is provided in the AEROS User's Manual Volume II referred to previously.

Collection Methodology

NEDS reporting necessitates the collection of both point and certain area source data. First point source data will require an annual update of the E.I. Some information is directly available from the CAPS system database, such as plant and general identification and stack data. However, other critical data such as actual emissions levels by emission point is not captured directly by either the Permits or Compliance Divisions but can be calculated using allowable emissions, control equipment efficiencies and operating rates. Fluctuations in these variables may not be identified to a ±5% accuracy and, therefore, is not a consistent and reliable source of actual emissions changes.

The CAPS system is, however, a good reference for identifying point sources whose actual emissions change due to Permits or Compliance activity for cross-checking changes in reported emissions. Specifically, new or modified sources generally require a permit. Additionally, Compliance schedules include milestones and associated estimated emissions reduction. Flagging these activities for NEDS reporting will assure major emissions changes are identified.

Area source data must also be established. In some cases, EPA generated data will be sufficient and additional information which may be needed for NEDS reporting is based on:

- availability of accurate local data which can improve EPA estimates
- the quality of EPA estimated data

Methods of data collection, validation and cross-checking sufficient to support NEDS reporting are discussed in the General Collection Methodology section of this Appendix.

PSD

E.I. Support Requirements

PSD regulations require "major" stationary sources to submit PSD applications when emissions are to be increased in an attainment area. Specified emissions levels or increments have been established for TSP and SO_2 and require increment air quality analysis. Specific emissions levels for other criteria pollutants can be expected from the EPA and will also require increment analysis eventually.

The applying source will generally be required to demonstrate increased emissions will not exceed allowable increments for a pollutant in the source's area of impact. In many cases, this will require the source to model the effects of emissions increases of all increment consuming sources on the allowable increment in the area of impact. Data to support the source's modelling effort will likely be requested from TACB's emissions inventory.

Therefore, the primary information which will be required of the E.I. is related to increment consuming sources. The EPA Region VI office suggests that "increment consumption or expansion can best be traced by tallying changes in the emission levels of sources contributing to the baseline concentration and increases in emissions due to new sources." "Baseline concentration" is defined in 40 CFR52.21 and baseline contributing sources are specified in the body of this report.

Specific data or increment consuming sources which should be maintained to support increment analysis includes:

- Plant Identification - Company name, primary business of source, county AQCR.

- General Identification and Stack Data - Permit number, PSD code, (an identifier used to distinguish increment consuming sources from baseline contributing sources) permit issue date, construction start date, operation start date, UTM coordinates, emission point name. Stack height, inside diameter at exit, stack velocity, total flowrate, stack temperature.
- Compliance Data - Potential emissions (TPY), Allowable emissions (TPY), Allowable emissions (lb/hr.).
- Control Equipment Data - Estimated pollution control efficiency (%).
- Emissions Data - Normal operating schedule (H/D, D/W, W/Y), Actual emissions (lb/hr.).

Although increment analysis currently applies to only TSP and SO_2 eventually all criteria pollutants will be subject and should be considered in the E.I. design. (Currently, de minimus levels are specified for other criteria pollutant and toxic substances.) These data requirements above were obtained from a study by TRW, Inc. for the EPA Region VI, (Randall Brown, Project Officer) in which the requirements were defined for the State of Louisiana for point sources. Since that time the need for potential emissions (TPY) has been reduced and it is possible that such data will be unnecessary.

The EPA also suggests "to the extent possible, the applicant should address other fugitive and area sources that consume and expand incremental air quality." To date the EPA has not emphasized these data in increment analysis except as they are considered in monitored Ambient Air Quality (AAQ) data and background adjustments. Basic area source data applicable includes county location and associated emissions in TPY by pollutant.

In addition to retaining these data, the E.I. should develop sorting routines and output formats such that the applying source can retrieve the information for all increment consuming sources in these areas of impact. Normally, the area of impact is defined as the area within a radius no greater than 50 kilometers.

Collection Methodology

In the body of this report, the following types of emissions were identified as increment consumers.

- Actual emissions, any change in emissions from sources contributing to the baseline concentration
- Allowable emissions, from all new major source sources contributing to the baseline concentration
- Allowable emissions, from all new major source construction, or modification after January 6, 1975.

However, the issue of tracking changes in actual or allowable emissions to determine increment consumption has yet to be resolved. The EPA Region VI indicates this issue will be addressed in more extensive PSD descriptions to be issued in June 1980. Tracking actual or allowable emissions has significant implications for data collection.

With regard to tracking allowable emissions, both increases in allowable emissions from existing sources and allowable emissions from new sources must be granted construction and operating permits through the TACB Permits Divison. To compile an emission inventory to support PSD increment analysis, therefore, will require review of the permits, probably prior to January 1975, to identify all increment consumers.

In most cases, actual 1975 emissions will not be available from the permit. An alternative source of data is the 1975 E.I. questionnaire. Comparison of the 1975 and upcoming 1980 E.I. questionnaire could be made to track changes in emissions from baseline contributing sources. To assist in cross-referencing this information to the appropriate permit, the permit number for the point source should be requested on the 1980 E.I. questionnaire.

Because the Permits Division handles PSD reviews and due to their familiarity with the permit file, it seems Permits should conduct or directly supervise at least the permit file portion of this review. The review objective should be to categorize increment consumers according to the criteria stated above. Information critical to making this determination is:

- date of construction start
- date of operations start
- emissions rates by pollutant

On an on-going basis, permits for changes in increment consuming emissions should be flagged by the Permits Division for input to the E.I.

The priorities for collecting data are similiar to those outlined in Section 6 of this report. In summary, these rank attainment status counties with:

- high permit activities
- heavy industrialization
- high population density

as highest priority for data collection.

RFP

E.I. Data Requirements

The basic requirement for emission inventory data in support of RFP is stated in the 1979 SIP as follows:

> "In order to demonstrate that reasonable further progress is being made toward attainment of the standard, the Clean Air Act requires that a comprehensive and accurate current inventory "be revised and resubmitted as frequently as may be necessary".
>
> A current inventory is also required to enable a determination to be made of the impact of any proposed new or modified major source.
>
> The TACB proposes to meet these requirements by a continuous update of the emissions inventory using source surveillance and permit data, as well as updated estimates of vehicle emission factors, VMT, and population."

TACB has identified non-attainment areas for three types of emissions - VOC, CO, and TSP. To monitor RFP, the E.I. should accurately track increases and decreases in VOC and CO emissions in non-attainment areas. However, because of the nature of TSP emissions (fugitive dust from areas sources) and planned control strategies, we did not identify a need for E.I data in support of the TSP determination of RFP. A discussion of E.I. data catagories needed to support VOC and CO RFP tracking and a method for monitoring RFP in TSP non-attainment areas follows:

- VOC - In non-attainment areas, VOC emissions changes should be tracked for stationary sources, both point and area, and for mobile sources. Point source emissions may increase as new sources are permitted or may decrease as existing sources are controlled (according to TACB Regulation V) or voluntarily shutdown. The EPA has suggested a simple ledger system to tally point source increases and decreases as suggested in this report (page 54). Increases in allowable emissions for new sources and decreases in actual emissions for existing sources should be available from the E.I. Specific data categories needed are:

  - Plant Identification - The E.I. should be able to identify point sources by county. This file will support a sorting routine.

  - Emissions Data - The emissions file will be referenced to identify VOC emissions levels for a point source. The system will require a procedure for identifying increases or decreases in a specific pollutant from the previous year. No levels have been specified by the EPA and we have assumed any change greater than zero should be tracked. Obviously larger emissions changes should be emphasized for collection.

  Stationary Area Source VOC emissions may also increase or decrease and are listed in Appendix H of the 1979 SIP. The 1979 SIP indicates area source growth in these categories is generally based on estimated population increases. Population by county will be required to make this determination. Decreases are based on compliance with control strategies (not source growth) therefore estimated emissions can be tracked in conjunction with implementation of compliance schedules.

  Mobile source VOC emission changes are based primarily on changes in VMT and motor vehicle fleet composition and implementation of the Federal Motor Vehicle Control Program (FMVCP). Data elements to support VOC emissions calculations through the MOBILE I program are identical to those required to calculate CO emissions as discussed below.

- Carbon Monoxide - TACB has determined that the primary cause of carbon monoxide non-attainment in El Paso (the only NAA) is automobile emissions, and that reductions from the FMVCP alone will result in sufficient air quality improvement to attain the standard by 1982. Emissions were calculated using EPA's MOBILE I, and estimates regarding VMT reductions due to increased gasoline prices. Specific data required for the MOBILE I program as specified in the 1979 SIP are:

  - VMT
  - Average speed
  - Temperature
  - Percent of hot and cold starts
  - Vehicle age distribution
  - Vehicle type distribution

  Monitoring RFP for Carbon Monoxide is a matter of updating and reporting the results of MOBILE I and the impact of the FMVCP to EPA. Ambient air quality should also be monitored to provide a cross-check against MOBILE I results.

- TSP - TACB has determined that the major cause of TSP non-attainment in all areas is fugitive dust due to agriculture; wind errosion; dirty paved streets and lots; unpaved streets, lots, and alleys; construction; materials handling; and industrial activities. Consequently overall control strategies for TSP will be in areas of increased enforceability and stringent controls of fugitive dust from construction, materials handling, and the use and maintenance of roads, streets, alleys and lots. No TSP controls will be placed on point sources since TACB modelling (PAL) has shown that contributions from point sources are negligible.

  TSP fugitive emissions (TPY) were calculated for each non-attainment area based on emissions factors, TACB studies and measurements, and basic assumptions regarding each area. An estimate was also made of the percent of TSP emissions caused by fugitive dust and of the maximum efficiency of the control strategies.

  Monitoring RFP in TSP non-attainment areas can be accomplished within the Control Strategy division by:

  - reporting the compliance status of planned control strategies, ie, what actions were taken,
  - estimating the effect of the strategies implemented, ie, efficiency of the strategies in terms of percent emissions reduced, and
  - recalculating and reporting the resulting emissions (mg/m^3) based on the original formulas used in Appendix L of the 1979 SIP.

  The key element of this approach is estimating the emissions reduction efficiency of implemented control strategies. This estimate should be made within Control Strategy and should be based on experience and best available knowledge of the actions taken and their effect.

  Based on this approach, no emissions inventory data is required. However, data from actual ambient air monitoring stations should also be reported to cross-check the above calculations and ensure that RFP is being accomplished.

Collection Methodology

E.I. data requirements to suport RFP in non-attainment areas do not exceed data requirements for NEDS point source and area source reporting. The annual update of emissions for NEDS should be sufficient to satisfy RFP tracking.

Major and minor point sources should be updated during SIP investigation. Normally, major point sources are investigated annually and minor point sources are investigated biennially. No significant problem should result from the update of minor sources biennially since any changes can be detected in the following year.

Stationary area and mobile source should be updated annually in support of NEDS reporting. Data gathering procedures are discussed in detail in the General Collection Methodology section.

Other Comments

To monitor and report RFP the emissions inventory system must be designed to:

- Detect changes in source emissions in non-attainment areas for specified pollutants. This would require that annual and biennial emissions updates for specified sources be flagged and the changes be filed.
- Report total changes in emissions in an NAA for specific pollutants. This would require that all stored changes be summed and printed in a report. The report should also compare previous and current years emissions by source and in total, reductions (or increases) to the 1979 baseline, and the current years reduction goal.

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CITY SPECIFIC EKMA MODEL

E.I. Support Requirements

The Empirical Kinetic Modeling Approach (EKMA) is a control strategy tool which relates ozone concentrations to precurser levels, specifically non-methane hydrocarbons (NMHC) and oxides of nitrogen (NO_x). For purposes of input to this model, NMHC emissions are total non-speciated VOC emissions. The model uses a set of ozone isopleths which depict maximum afternoon concentrations of ozone downwind from a city as a function of:

- morning concentrations of NMHC and NO_x,
- NMHC and NO_x emissions occuring later in the day,
- meteorological conditions,
- reactivity of the precurser mix, and
- concentrations of ozone and precursers transported from upwind areas.

The ozone isopleths are generated via computer package (OZIPP) and, when combined with the EKMA methodology, enable the user to determine what percentage reduction in precurser levels would be required to attain the NAAQS for ozone. Control strategies can then be developed to achieve the desired reductions. EKMA provides essentially the same information as the linear rollback model but is believed to be more accurate.

There are two variations of EKMA. One uses a standard set of isopleths based on fixed assumptions; the other (and the one discussed here) uses isopleths based on information specific to a given location, ie, city-specific data.

The use of EKMA is documented in EPA publications EPA-450/ 2-77-021a and b and EPA-600/8-78-014a. Final EPA requirements have not been finalized but should be available by mid-year 1980 according to EPA at Research Triangle Park. Preliminary indications from EPA are that the only E.I. data required will be total NMHC and NO_x emissions aggregated by county. This represents a Level III data collection effort. (For large counties with a relatively small dense city core, the emissions of the city core may also be required. Such cities have not been identified by EPA.) A Level I modelling effort would require NMHC and NO_x emission to be temporarily and spatially resolved for post 0800 emissions.

Other data needed to run the city-specific EKMA model includes:

- Meterological light intensity data
- Meterological dilution data
- Transported pollutant data
- Reactivity data for NMHC and NO_x

This data will be gathered by monitoring or from sources other than the E.I.

In summary, the EKMA can be used without Emissions Inventory data; however, more accurate results can be obtained if city specific data is used. City specific data requires certain meteorological and air quality data, basic assumptions, and possibly county-wide (or city-wide) emissions data. Aggregated emissions data by county has also been identified as required for development of control strategies, particularly in NAA counties.

Collection Methodology

Collection of the city specific parameters is discussed in Appendix B of EPA-450/2-77-021a. Emissions inventory will be required to supply total NMHC and NO_x emissions by county (or city core), however, the data required will not exceed the data required for NEDS reporting. Specific collection methodology is discussed in the general collection methodology section.

Other data needed to transform EKMA into a city-specific version are discussed below.

- Light Intensity and Dilution data are basically meteorlogical data and should be readily available from TACB records.

- Transported emissions are based on measurements of ambient air quality, upwind of the city in question, and assumptions are provided if such data is not specific, eg, ozone transported aloft equals upwind ground measurements between 11 a.m. and 1 p.m. Ozone transported aloft is considered to be the major contributer for this category.

- Consideration of precurser reactivity is not recommended by EPA due to limited knowledge about the mixes of hydrocarbons in urban areas and the uncertainties in representing such mixes in the Kinetics model. The model uses n-butane and propylene as surrogate indicators for the urban hydrocarbon mix and all chemical reactions are based on these two species. Therefore, EPA suggests that the initial 75% butane - 25% propylene mix should be used unless better correspondence between atmospheric and kinetic model mixes can be established (Appendix B of EPA 450/2-77-021a).

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EMISSIONS VALIDATION

E.I. Data Requirements

Emissions data validation normally requires "process data". Validation of emissions data routinely occurs in conjunction with the following activities:

- Regional office review of reported emissions often includes a check for reasonableness based on process type and quantities throughput.
- The E.I. section performs a cursory review for accuracy of data collected for NEDS reporting.

AP-42 factor calculations are routinely used for emissions validation. In addition, Control Strategy uses process data in support of the following activities:

- development of control strategies
- identification of sources whose processes and emissions levels will be affected by implementation of control strategies or CTG's.

Finally, the EPA has requested Level I data collected in the Houston area be validated or checked for reasonable accuracy prior to input to the Photochemical Oxidant Model.

Primary process data categories required to accomplish these validation and support activities follow:

- Process data - This is a general category of data in which quantities of raw material feeds and process products manufactured are identified. Normally a block process diagram indicating basic process steps should be submitted with the data. Often a schematic diagram is valuable in interpreting reported emissions or other data.
- Storage Tank Data - This data is requested to verify storage tank emissions. It is often of particular importance in calculating or verifying VOC emissions in NAA's and analyzing effects of potential regulations.

- VOC Transfer Data - This data is primarily used to analyze the effects of various regulations or control processes.

- Waste Disposal Data - This data identifies waste disposal processes in support of the primary business for which emissions are reported directly.

- Surface Coating and Degreasing - This data is directed at identifying quantities of paints, inks and solvents used directly in an industry's primary business (i.e., printing operations) or in support of the primary business (i.e., degreasing operations).

These categories have been identified as needed in past questionnaries for the reasons stated above. Specific information on other processes may be needed in the future to validate or control smaller emissions sources. Our reviews did not identify a current need to expand process data collection. However, any E.I. conceptual design should be able to accommodate expansion of the process data file section.

Collection Methodology

Process data as described above was collected on the 1975 E.I. questionnaire. The information described above is not reported through any other TACB Division and thus is not available. The need for process data is described and, we believe, established in the above discussion. The most feasible collection method is via direct source inquiry.

However, collection of this information has been a sensitive and much discussed issue between Industry, TACB and the EPA. Industry's position is that process information requires reporting of otherwise proprietary and confidential data. The two most affected industry groups appear to be 1) small businesses whose lack of technical personnel make it difficult to provide technical data and diagrams and 2) the highly competitive industries such as petrochemical producers. Representatives of the petrochemical industry have indicated that the primary aversions to supplying process data are:

- Material balances are an inaccurate method of supporting process emissions calculations. (We did not, however, identify a need for material balance data within TACB).

- Process % yields are, in many cases, the only competitive advantage in industries where equipment and processes are very similiar. (This was not identified as a TACB requirement).

- Detailed block or process schematic diagrams showing flows and equipment types, capacities and quantities could reveal proprietary information. (Detailed diagrams were not identified as a TACB requirement).

The current situation appears to be one of violent agreement. TACB basically has no need for the information described above and the current controversy between Industry, TACB, and EPA can be minimized if it is not requested.

Industry should be required to provide simple block or schematic diagrams showing quantities of raw material input and product output by process. Process and other information on waste disposal, surface coating and degreasing, storage tank and VOC transfer, should be provided in support of emission data collected on the questionnaire. The situation, in which this level of data would not be sufficient, are limited. Where this is insufficient to explain the reported emission level, supportive information indicating the method of emission calculation should be provided. However, any data in these categories should be maintained as confidential at the request of supplier.

REGIONAL OFFICE/COMPLIANCE

Section 4 of this report describes the activities of the Compliance Division and the Regional Offices (RO's). It also describes the Source Inspection System and federal reporting requirements. In summary, the Compliance Division has the responsibility to ensure that the rules, regulations, orders, and provisions of the Board are enforced throughout the state in an equitable and consistent manner.

E.I. Data Requirements

The Compliance Division develops strategies to enforce recent additions and changes to TACB rules and regulations. According to the Division Director, the types of information needed are process descriptions, raw material inputs, and product outputs. Interviews with Regional Offices indicated various needs for E.I. data in support of regional activities. E.I. data can be used to:

- Provide basic plant information for plant surveillance investigations (SIP investigations).
- Assist with planning and conduct preliminary stack sampling investigations and opacity readings of stacks in plants.
- Review permits for plant additions and modifications.
- Provide better communication on complaints concerning emissions and odors from plants, i.e., determine possible pollutants, sources and processes that may be involved.
- Determine suitable sampler locations for property line sampling by identifying the location of major emission sources in a plant.
- Comply with Rule 7 and 8 on upsets and maintenance reports by providing information allowing better coordination with plant personnel on reported source emissions, process descriptions, and malfunctions of air pollution control equipment.

- Aid the study of problem areas in a plant by identifying emission sources, types of pollutants, control equipment installed, and quantities of pollutants from emissions sources.

- Identify sources affected by NESHAPS, sources of hydrocarbon emissions (photochemical oxidants), and sources of other pollutants in non-attainment areas.

- Aid in air quality surveillance and in the location of new sampling sites (CAMS & TASN).

- Provide coordination with permit applications, SIP investigation reports, sampling reports and upset/maintenance reports for planning, compliance and legal actions.

- Provide information during accidental episodes by determining the potential for toxic chemical/emissions and fire hazards, and by providing the location of storage tanks, containers, process vessels, etc. that may contain hydrocarbons or toxic chemicals.

TACB Regional Office staffs indicated that the following E.I. data files on all permitted sources are needed to support regional offices:

- <ins>Plant Identification</ins> - Used by field investigators to locate the facility and the designated contact person.

- <ins>General ID & Stack Data</ins> - Used in conjunction with plot plans to identify specific sources and verify their emissions.

- <ins>Control Equipment</ins> - Used to ensure compliance with state regulations and federal guidelines.

- <ins>Emissions Data</ins> - Used for quality assurance and to ensure compliance with permit conditions.

- <ins>Operating Data</ins>, <ins>Fuel Data</ins>, <ins>Waste Disposal Data</ins>, <ins>Storage Tank Data</ins>, <ins>VOC Transfer Data</ins>, <ins>Surface Coating and Degreasing Data</ins>, <ins>Fugitive Data</ins>, <ins>Process Data</ins> - Used to validate emissions inventory questionnaires and to ensure compliance with TACB regulations.

- <ins>Area Source Data</ins> - (Total area source emissions by pollutant) Used when air monitoring indicates an attainment problem and the regional personel must determine the source of the problem, i.e., point or area sources.

In summary, our review of the E.I. data support requirements of the Compliance/Regional Offices indicated a need for an updated version of the 1975 E.I. questionnaire. Additional data relating to area source emissions were also requested.

Data Collection Methodology

The Regional Offices are not only users of E.I. data, but are very important sources of the data required to maintain a current E.I. The role of Regional Offices as described below would be beneficial to both the Regional Offices and maintenance of the E.I.

- Point source questionnaires should be returned to the RO's after they are input to the E.I. by TACB in Austin. The RO's would be the repository of the questionnaire responses for point sources within their jurisdiction, and would provide an on-site source of E.I. data.
- RO's should check the questionnaire responses for reasonableness, particularly emissions data and estimates of control efficiency. In some cases, this may require calculation of emissions based on AP-42 factors. In other cases, RO investigations can judge the reasonableness of emissions based on familiarity with the source. Corrections identified in this process should be sent to the Emissions Inventory section in Austin for E.I. update.
- RO's should be sent current E.I. data from Austin annually. E.I. data should be available to assist in the annual SIP investigation for major point sources and the biennial investigation for minor point sources. This would satisfy E.I. support requested by the RO's.
- The E.I. data should be provided in a format on which changes can be directly entered. Changes in E.I. data should be reviewed with source personnel during SIP investigations, recorded directly on the E.I. data sheet, and returned to Austin for E.I. update. The Emissions Inventory should then return the updated E.I. to the RO's as soon as possible, no later than the next SIP investigation.

RO's Directors were presented with this scenario in a meeting in late March. No negative responses were received with the exception of the Houston RO which indicated that manpower may be a problem in reviewing returned questionnaires for reasonableness.

PHOTOCHEMICAL OXIDANT MODELLING

Overview

The timing and level of effort required to support the 1982 SIP development have been intensely discussed over the past several months between EPA, TACB and industry. In an April 2, 1980 letter from Allyn M. Davis of the EPA Region VI to Bill Stewart of TACB, the following was outlined with regard to the Houston Oxidant Modelling project:

> "Level III efforts would be acceptable for 1980 provided that Level I efforts are completed in 1981. It is suggested that a 1980 Level III emissions inventory be geared for upgrading Level I status in 1981. This upgrade could be accomplished by requesting additional Level I specific emissions information in the questionnaries that are distributed in 1980 for the Level III effort. This additional information should include (1) hourly operating patterns and activity levels for typical summertime operation, (2) speciation of hydrocarbon emissions, and (3) stack data. Detailed link-by-link analyses of corresponding traffic patterns should also be submitted to expedite the proper gridding of mobile sources. This task has been accepted by HGAC, and the funding for their efforts should be forthcoming. Although a Level III modeling effort is expected to be submitted in the 1982 SIP, Level I emissions inventory and air quality data bases are still needed to meet the minimum requirements for the 1982 SIP submittal."

This letter and EPA's "Procedures for the Preparation of Emissions Inventories for Volatile Organic Compounds (VOC) - Volume II (referred to as Vol. II.) have established the basis for E.I. support requirements and the data collection methodology discussed below.

E.I. Support Requirements

Level I data collection applies to VOC and NO_x emitting sources in the Houston area. To support oxidant modelling, VOC and NO_x emissions must be 1) spatially and temporally resolved and 2) identified by species (or reactive) class.

Information is generally collected separately for point sources, highway motor vehicles, and other area sources. Projection data is also required for emissions occuring in each of the categories. Data collected for a basic Level III inventory, if accurate and complete, will provide most of the required data. The Level III inventory effort is proposed for non-attainment, highly industrialized counties or for counties having heavy permit activity in 1980. A discussion of Level III inventory data and additionally required Level I data and projection data is discussed below for point sources, highway motor vehicles, and other area sources:

- Point Sources- A basic Level III inventory will be collected for major point sources in support of NEDS reporting. A Level III inventory is sufficient to spatially resolve point source emissions. Specifically, point sources will be required to report UTM coordinates locating emissions to the nearest 0.1 kilometers. In addition stack data will be requested specifying,

    - physical stack height
    - inside diameter of stack
    - exit gas temperature
    - exit gas velocity

  This data should be available for both major and minor point sources.

  However, resolution of temporal emissions will require additional Level I information to allocate total VOC and NO$_x$ emissions by hour and by point source. Vol. II indicates that major emitters should:

    - report total VOC and NO$_x$ emissions from each point source and
    - specify the hour-by-hour operating rates

  for a "24 hour typical day in the oxidant season". The combination of this information would yield hour by hour emissions rates in the oxidant season. Temporal emission resolution is also required for minor sources, but Vol. II. indicates that certain Level III data is sufficient, and diurnal operation patterns can be assumed or based on engineering judgement. The Level III data are:

- Annual NO_x and VOC emissions (TPY)
- Quarterly throughput (% of annual)
- Normal operating schedule (D/W, H/D)

VOC and NO_x species classification is also required although the exact classifications are presently undetermined. VOC can be broken into 3 to 6 classes and NO_x can be broken into 2 classes. The exact number of classes required by the E.I. is dependent on the oxidant model chosen, a decision which has not been made by the EPA. However, the basis for allocating VOC and NO_x emissions to classes is defined in Vol. II as "split factors" which are to be applied to total VOC or NO_x emissions.

Vol. II Chapter 7.0 also indicates that:

> "In no case should the agency develop split factors or carry out such an allocation without knowing what photochemical model will be run or what classification scheme is needed to meet the model's reactivity requirements."

This statement was made with regard to "carbon bond" models such as the Urban Airshed Model. Therefore, exact species classification cannot presently be defined. The impact on collection method is discussed later in this section.

- Highway Motor Vehicles - Motor vehicles are heavy VOC and NO_x emission contributors. Modelling requires spatial and temporal resolution and speciation of these emissions.

Spatial resolution can be accomplished by identifying emissions attributable to mobile sources within a prespecified grid. In addition, the emissions must be resolved temporaly on an hour-by-hour basis. Finally, total VOC and NO_x emission must be broken down into the species class required to support a particular oxidant model.

Basic data required to identify VOC and NOx hourly emission levels by species class are detailed in Vol. II and include:

- Mobile 1 emissions factors
- Link-by-link traffic volume by hour summed by grid section
- Split factors appropriate for the desired oxidant model

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Sufficient information to proceed with data collection on the first two items is available, however, determination of split factors is dependent on the model required by the EPA for the Houston project.

Projections of highway motor vehicle emissions can be achieved by changing 1) the emissions factors according to FMVCP guidelines and 2) traffic volume measures within a grid.

- Area Sources - Remaining sources contributing to area VOC and NO_x emissions are listed in Vol. II - Chapter 6.0. As above, the emissions from these sources must be spatially and temporarily resolved and classified by species. This requires the following E.I. data:

    - VOC and NO_x emissions by grid for each source
    - Estimates of operating patterns for each source expressed on an hour-by-hour basis
    - Split factors appropriate for the oxidant model to be used

  Data required to determine emissions levels by grid include either 1) activity levels for a source within a grid or 2) surrogate indicators. These alternatives are discussed later in this section.

  Vol. II indicates that operating patterns may be determined by engineering judgement or by assumptions stated in Vol. II - Chapter 6.0. Split factors, as expressed above cannot be determined until EPA selects a model for use in Houston. Projections can be developed by altering activity levels, surrogate indicators, or operating patterns for particular sources.

Collection Methodology

Separate data collection techniques will be required to obtain point source, highway motor vehicle, and area source emissions. The critical point of concern is that all emissions are spatially resolved by the same grid system. Below is a discussion of the method of collection and proposed responsibility for collecting category of emissions data.

- Point Sources - Major and minor point source emission data should be collected via a questionnaire.

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However, for major sources a supplemental questionnaire should be included requesting additional Level I data. This data is specified above and basically refers to temporal resolution and species classification by point source.

- Temporal resolution requires hour-by-hour operating patterns for a 24 hour typical day during the oxidant season
- Species classification should also be requested. Vol. II suggests large (assumed to be major) emitters could perform source test to determine species class data

For minor sources, Vol. II suggests minimal procedure which is sufficient for determining temporal resolution and species class without significant additional data.

- Temporal resolution can be estimated based on operating data which would be supplied in a normal Level III data collection effort. However, assumptions have to be made on diurnal operations
- Species classification can be determined by applying split factors (available in literature) to a total VOC or NO_x emissions based on a specific SCC code

Using this technique, a supplemental questionnaire would not be required for minor point sources. However, greater accuracy may be achieved using the technique applied to major sources.

To maximize the accuracy of data collected and minimize industry expense, it is recommended that the largest emitters be required to perform source test to determine species class.

This can be accomplished by selective review of emissions data for the area. Cutoff emissions levels for the source testing requirement could be established by identifying point source emitters which contribute the major portion of total point source emissions in the area. The intent is to request the minimum source testing to cover the maximum area emission contribution. Engineering judgement should be applied.

The largest problem foreseen for source testing is that species classification cannot be specified until the EPA selects the model to be used. Without this, sources will be required to source test to

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meet worst case requirements. Some models require as many as seven species classes, and "carbon bond" type models are further complicated by algorithms which must be applied prior to input. The model to be used should be be determined by EPA prior to requesting point source testing.

Projection update procedures are discussed in Vol. II and in the General Collection Methodology Section of this Appendix.

- Highway Motor Vehicles - HGAC in Houston has accepted responsibility for developing motor vehicle total NO$_x$ and VOC emissions in accordance with a 3 kilometer grid pattern approved by TACB. The emissions will be provided to TACB on an hour-by-hour basis. In addition HGAC will update these emissions estimates in 1981. From this data, TACB can determine species classes by applying split factors.

- Area Sources - HGAC has indicated they will provide basic emissions data or appropriate surrogate data on other mobile area sources such as aircraft, rail and vessel emissions. In addition, HGAC will provide gas transfer information in form of a service station survey which identifies quantity and type of gas pumped. TACB will be required to determine temporal variations by applying split factors to determine class species and operating patterns.

  In addition, HGAC will provide land use data by grid. This is surrogate data sufficient to calculate total VOC and NO$_x$ emissions for most other important area source emitters. TACB will be required to estimate operating patterns to develop temporal variations. Again, split factors can be used to develop species classifications.

SECTION II

GENERAL COLLECTION METHODOLOGY

Overview

In each narrative description of activities which the Emmissions Inventory (E.I.) will be required to support, data gathering unique to the activity was addressed and/or the discussion was deferred to this section. Due to the need for similiar data in support of many of the activities, a general collection methodology can coherently address data collection procedures. This section is divided into the following discussion topics:

Point Sources

- Establishing the Initial Point Source E.I.
- Updating the Point Source E.I.
- Cross Checks and Validation of the E.I.

Area Sources (includes stationary and mobile)

- Establishing the Initial Area Source E.I.
- Updating the Area Source E.I.

The purposes of the methodologies presented below are to collect and maintain an accurate and complete E.I. while minimizing TACB and industry resources required.

Establishing the Initial Point Source E.I.

The basic method for collecting data for the initial E.I. should be direct source inquiry. The information and format of the 1975 questionnaire is desirable since it encompasses most data required to satisfy previously described activities and is familiar to TACB Regional Offices, local agencies, and industry. The questionnaire should be upgraded and reformatted as described below:

- Clearer general instructions should be provided in the cover letter. Regional Offices (RO's) and local agencies should be surveyed for clarifications needed.
- Specific definitions should be provided indicating process schematic diagrams and data detail required.
- Fugitive emissions estimating procedures should be specified.
- Instructions should indicate that alternative reporting formats (such as computer printouts) are unacceptable.
- A description of the anticipated update procedure should be provided.
- Recipients should be requested to direct questions to the agency responsible for conducting SIP investigations.

In addition, the questionnaire should address the differences in Level I data reporting for the Houston area and Level III data reporting for the remainder of the state. We suggest Level I data be collected in the Houston Area during the 1980 data collection period. This will facilitate validation of the data described later in this section. Level I data are basically expansions of Level III data and were previously described in the activity narrative on Photochemical Oxidant Modelling. A questionnaire supplement should be included for sources in the Houston area covering spatial and temporal resolution and VOC pollutant splits.

The basic method proposed for distributing and assisting industry in completing the questionnaires involves maximum use of RO's and local agencies. For point sources whose SIP investigations are performed by RO's, the questionnaire can be sent directly to the industry contact from TACB in Austin. However, the TACB contact which should respond to industry inquiries regarding the questionnaire should be the RO.

Local agencies support of the questionnaire process must be handled on a case-by-case basis. However, in all cases except Houston, local agencies are obligated in the terms of their grant agreement to support the E.I. effort as follows:

> "The grantee shall prepare and maintain an emissions inventory for all SIP sources consistent with the requirements of 40 CFR 51 Subpart Q for submittal to TACB and subsequently to EDP. All emissions data must pass the National Emissions Data System (NEDS) edit checks or they will be returned for correction and resubmittal."

The Dallas and Fort Worth local agencies have already begun the E.I. data collection. Other agencies are awaiting TACB guidance. To avoid duplication of collection effort, the questionnaires for sources under the SIP investigation jurisdiction of Dallas and Fort Worth should be sent to the local agencies. Sources under the jurisdiction of San Antonio, Galveston County, El Paso, and Houston local agencies should be sent directly to the source, and the agencies should be copied on the distribution. In all cases, sources should contact local agencies regarding questionnaire problems.

The E.I. section of TACB should be prepared to contribute the most support to the Houston area data collection effort. The questionnaire in Houston will be at a Level I detail as described in the Photochemical Oxidant Modelling activity narrative. Resources of both the Regional Office and local agencies in the Houston area are limited.

Questionnaires from sources should be returned directly to TACB in Austin when completed. Data should then be keyed to an automated storage system and the questionnaire returned to the appropriate RO local agency for review and validation.

The questionnaire method of data collection for the initial E.I. is preferred over the retrieval of information from the CAPS system for the following reasons:

- The present CAPS system does not contain all the information required in the E.I. Specific examples are actual emissions estimates and process data.
- Point source identification in CAPS is not currently at the level of detail required in the E.I.
- Available CAPS information, in some cases, would require conversion software to be acceptable to the E.I. Examples include emission estimates and control equipment descriptions.

However, on a continuing basis, the CAPS information is an important source for updating and cross-checking data in the E.I. These activities are discussed in the following sections.

Updating the Point Source E.I.

To be accurate and complete the E.I. must be updated to reflect new sources added and changes to existing sources. The method proposed for each follows:

- Addition of new sources - The Permits division collects all basic source identification, emissions, and control equipment information as part of the permitting function. Therefore, the operating permit should be the device from which new source files are added to the E.I. This information is available through CAPS.

  Information entered on a new source should be flagged for PSD increment consuming staus if permitted in an attainment area, and for RFP contribution (probably an increase in emission) if permitted in a non-attainment area.

  Other information such as actual emissions and process data will not be available through CAPS and will have to be entered from information collected via the procedure below.

- Existing source updates - E.I. data on existing sources should be updated as part of the annual SIP investigations for major sources, and the biennial SIP investigations for minor sources. Again this implies maximum use of Regional Offices and local agencies. The proposed update method involves supplying Regional Offices and local agencies with complete sets of E.I. information to be carried with investigators to the SIP inspection.

> The E.I. information should be compiled in an updatable format, probably automated, and containing all basic information on the 1975 questionnaire for existing sources.
>
> Investigators should review the E.I. data and identify changes. Any changes can be noted in color beside the original information or data on the updatable E.I. form. The form should be returned directly to Austin with the SIS forms prepared in conjunction with the SIP investigation. Changes on the form should be keyed into the E.I. system from the updated questionnaire.

Advantages to this approach are that it provides investigators with E.I. data useful in performing the investigation and it serves as a routine method of updating the E.I. On-site review of the E.I. with the source also provides a check on the reasonableness of emissions data. Data in question can receive direct and immediate attention. In addition, this approach minimizes requirements of both TACB and industry resources since investigators will not be required to make additional trips to plant sites. Finally, the effort required to update the E.I. will be balanced throughout the year and provide more consistent reviews than would mass questionnaire mailings and returns.

The primary disadvantages to this approach is that it requires additional manpower effort at regional or local agencies where staffing is limited. However, the additional time added to SIP investigations should be minimal. In most cases, review of E.I. data will require only 1 to 2 additional hours. In cases of larger point sources, the update may be left with the industry contact to be completed and returned thus minimizing the TACB time requirement.

Validation and Cross-Checks of Point Source Data

For the purposes of this discussion, validation will refer to manual inspection or calculation of emission data to determine reasonableness. Cross-checking will refer to automated cross checks of data and information contained in

CAPS. The objectives of validation and cross-checking are to assure the quality of data in the E.I. and to identify descrepancies in data reported through different mechanisms.

A detailed discussion of data required to validate emissions is included at the Emission Validation activity narrative in this Appendix. Validation requires process data to support calculations based on AP-42 methodology. Our position on process data required for validation activities is stated in the activity narrative. In general, process data should be requested as part of the questionnaire or routine update process. Where possible, emissions data should be validated by the Regional Office or local agency most familiar with the source. This will probably be the organization having SIP investigation jurisdiction over the point source. In the case of Houston, where manpower is critically limited, TACB in Austin may be required to provide validation suppport.

Cross-checking is necessarily an automated function due to the number of point sources and data elements associated with each source. Cross-checking is limited by 1) the data collected and stored in other systems, 2) the way in which data elements are defined, and 3) the degree of system automation.

The CAPS I, PM05, and CM04 systems are the primary systems which can provide cross-checking data. However, our review of these systems indicated major system modications were currently in progress. Specifically, CAPS II is being developed and will be ready for testing in May 1980. CAPS III will merge CM04 into CAPS II. Testing of CAPS III is anticipated in late 1980 or early 1981 but a specific target date has not been set.

Our review indicated that an automated interface between the CAPS system and the E.I. system can provide cross-checking capability, and in some cases should be the primary source of data. For E.I. purposes, data can be classified into the following categories.

- Data taken directly from CAPS
  - Compliance data (CAPS III - CM04)
- Data from CAPS system which can be cross-checked directly
  - The majority of plant identification (CAPS II - PM05)
  - The majority of general identification and stack data (CAPS I)
  - Control or abatement equipment descriptions (CAPS II - PM05)
  - Operating Data (CAPS II - PM05)
- Data from CAPS system which can be cross-checked with software conversion or cross-reference tables
  - Actual emissions (CAPS II - PM05 if consistently reported)
  - Control equipment, EPA and Permit abatement codes (CAPS II - PM05)
  - Control equipment efficiency - %
  - Control equipment cost
  - Company/establishment address
  - Plant identification (CAPS I)
  - Point source identification (CAPS II - PM05)
  - AQCR code
  - UTM Zone and coordinates
- Data not available in CAPS system
  - Year of record
  - Gas flow - CFM
  - Flow rate - #/hr
  - % particulate $\leq$ 5 microns
  - Total boiler design capacity
  - Energy consumed in control equipment
  - Installation date of control equipment
  - % fuel used for space heating
  - Projected emissions data
  - Process data

For E.I. purposes, the availability of this data means the CAPS system can provide the following:

- For new sources: general plant, point, and stack identification; estimates of actual emissions and control equipment description.

- For existing sources: compliance status.

- For existing sources: cross-checks of plant, point source and stack control equipment identification and location data, actual emissions data, and control equipment efficiencies.

Establishing the Initial Area Source E.I.

The purpose of this section is to identify those agencies responding to Mr. Bill Stewart's letter referencing House Bill 793 and inquiring as to the availability of E.I. data within other state agencies. As of this report TACB had received 13 responses with 3 indicating they had data which may partially satisfy TACB's needs. These three are:

- State Department of Highways and Public Transportation
- Public Utility Commission
- Comptroller of Public Accounts

The above agencies plus the Texas Aeronautical Commission were contacted to further identify and categorize the data they could supply. With the exception of the Public Utility Commissions, the data falls under area source categories (stationary and mobile). The specific data which can be obtained from these agencies are discussed below.

- State Department of Highways and Public Transportation The Highway Department, Transportation Planning Division, can provide TACB with substantial mobile source information. Some of the information will require modification based on assumptions to be usable to TACB. All data can be sorted by county and includes:

    - Number of miles of paved and unpaved road

    - Percent of vehicles on State/Federal roads that are heavy-duty trucks (gas and diesel combined)

    - Vehicle miles traveled (VMT) by functional classification of roads, i.e., interstates, other arterials, collectors, and local. This information applies only to State/Federal and county roads.

- VMT by surface type, (paved, unpaved) for county, State/Federal, and city roads
- VMT by urban/rural classification for county, State/Federal, and city roads

VMT by functional clasification could, with certain assumptions on average speed, be used to obtain VMT by the four NEDS classifications, ie., limited access roads, rural roads, suburban roads, and urban roads.

In addition, the Motor Vehicle Division can provide:

- Motorcycles registered by county
- Vehicles registered by county by weight and by age. Weight classifications are:
    - 0 - 2000 lbs.
    - 2001 - 3000 lbs.
    - 3001 - 4000 lbs.
    - 4001 - 5000 lbs.
    - 5001 - 6000 lbs.
    - Pickups <8500 lbs.
    - Trucks >8500 lbs., gasoline
    - Trucks >8500 lbs., diesel

    Age is segregated yearly for the past 12 years and for all others in total.

Population data used by the Highway Department is obtained from Federal Census data.

- Texas Aeronautical Commission (TAC) The TAC can provide TACB with the following information through FAA documents (50-10 forms).
    - Yearly landings and take-offs (LTO) at each airport open to the public. Civil and commercial LTO's are grouped together.

  The above information is sorted by city but the county is listed and, therefore a county summary could be obtained.

- Comptroller of Public Accountants The Comptroller's Office, Fuel Tax Division, can supply TACB with the following area source information:
    - Statewide yearly gasoline usage for off-highway vehicles and all other vehicles in total
    - Statewide yearly diesel fuel usage for off-highway vehicles and all other vehicles in total

Further breakdown by light and heavy duty vehicles is not possible nor is usage on a county-wide basis except by estimate.

- Public Utility Commission (PUC) PUC has limited point source E.I. information available through its application process and files. The data is received when a utility files an application for a certificate for a new generating station, and therefore, is limited to utilities and to new utility sources. The information is:

  - Company name and mailing address
  - Plant location: city and county
  - Stack height and diameter
  - Type of fuel used and quantity of each, units/year
  - Heat content of fuel in BTU per unit
  - Type and efficiency (%) of air pollution control equipment

  In addition, the PUC has access to the Federal Energy Regulation Commission's annual report which provides fuel use data for utilities on a plant by plant basis. They also receive a monthly report on fuel use from each utility company. Both these reports would indicate type and amount of fuel used by each plant in the state and could be provided by county.

Other agencies should be contacted as they respond to TACB's request. Possible sources are:

- Department of Agriculture
- Department of Parks and Wildlife
- Department of Water Resources

Updating the Area Source E.I.

The agencies discussed above update this data on an annual basis.

APPENDIX II

E.I. DATA DICTIONARIES

APPENDIX II

The data dictionaries contained in this appendix describe both existing TACB E.I. required data elements and projected (EPA) data element requirements. The data elements are arranged by sixteen categories as follows:

- Plant Identification
- General Identification and Stack Data
- Control Equipment Data
- Emissions Data
- Compliance
- Operating Data
- Waste Disposal
- Fuel Data
- Storage Data
- VOC Transfer
- Degreasing Data
- Surface Coating Data
- Process Fugitive Data
- Process Data
- Projection Data
- Area Source Data

Specific data elements within each category are arranged in the same order as they appear in Exhibits A-1 through A-16 in Appendix I and are presented following this page.

NAME: State Code

CATEGORY: Plant Identification

ALIAS:

SIZE: 2

TYPE: Numeric

DESCRIPTION:

First part of NEDS Account Number for EPA reporting

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

45 (for Texas)

JUSTIFICATION:

NEDS

RETENTION:

UPDATE REQUIRED

COMMENTS:

Possible to be found in
- 'Address' of CMO4
- 'Location', 'Mailing-Information-Line 1'
- 'Mailing-Information-Line 2' of PMO5
- 'Location-PAC', "Mail-1-AD', "Mail-2-AD' of CAPS

NAME: County Code

CATEGORY: Plant Identification

ALIAS:

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Codes defined by EPA contained in SAROAD Manual (APTD-0907)
Second Part of NEDS Account Number for EPA reporting

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

See SAPOAD Manual

JUSTIFICATION:

- NEDS
- RFP reporting
- EKMA and Oxidant modeling

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

TACB County codes are different. If conversion table established this information could possible be obtained from: County-PAC of CAPS
County is available in name form as: "COUNTY' in CM04 and PM05

NAME: AQCR Code

CATEGORY: Plant Identification

ALIAS:

Air Quality Control Region Number

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Assigned by EPA. Equivalent to 2 digit TACB Region Number.
Third part of NEDS Account Number for EPA Reporting

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

AQCR Code and equivalent TACB Region Number
210=1 213=4 216=7 106=10
211=2 214=5 215=8 153=11
212=3 218=6 217=9 022=12

JUSTIFICATION:

- Control Strategy
- NEDS
- RFP reporting
- EKMA and Oxidant modeling

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

If conversion table established this may be obtained from 'Region' in CM04 and PM05

NAME: Plant Identification Number

CATEGORY Plant Identification

ALIAS:

SOURCE-NUMBER-AC in CAPS

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Fourth (and last) part of NEDS Account Number for EPA reporting

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/Regional Offices
- NEDS
- RFP reporting
- EKMA and Oxidant modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Source-Number-AC = 5 characters

NAME: City Code	**CATEGORY:** Plant Identification

ALIAS:

City in PMO5

SIZE: 4	**TYPE:** Numeric

DESCRIPTION:

EPA defined codes for cities over 2500 population in 1970 Census. See SAROAD Manual (APTD-0907)

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

See SAROAD Manual (APTD-0907)

JUSTIFICATION:

- NEDS
- RFP reporting
- City specific EKMA Modeling
- Oxidant modeling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

To be used only for Accounts within geographical boundaries of a city. Do not use nearest city.

Possibly could be found in
Address of CMO4
Location of CAPS

NAME: UTM Zone

CATEGORY: Plant Identification

ALIAS:

ATM Zone-PT in CAPS

SIZE: 2

TYPE: Numeric

DESCRIPTION:

Universal Transverse Mercator Zone
The world is divided into 60 zones each 6 degrees of longitude wide.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

13
14 for Texas
15

JUSTIFICATION:

- Compliance/Regional Offices
- NEDS
- RFP reporting
- EKMA and Oxidant modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

UTM ZONE-PT = 1 character

NAME: Year of Record	**CATEGORY:** ALL

ALIAS:

SIZE: 2	**TYPE:** Numeric

DESCRIPTION:

Year for which values of data contained on a particular data card are valid

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

73-current year

JUSTIFICATION:

- NEDS for historic tracking of changes
- Compliance/Regional Offices
- Emissions Validation

RETENTION: N/A	**UPDATE REQUIRED** N/A

COMMENTS:

Not available in CMO4, PMO5 or CAPS

NAME: Establishment Name

CATEGORY: Plant Identification

ALIAS:

Plant-Name-AC in Caps

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Name of the Facility

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

NEDS, Site specific control strategy, Compliance/ Regional Offices

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

Available from CAPS or Compliance Division

NAME: Establishment Address	**CATEGORY:** Plant Identification

ALIAS:

Location IN PMO5
Location IN CAPS
Loc-zip-PAC IN CAPS

SIZE: 20	**TYPE:** Alphanumeric

DESCRIPTION:

The physical location of the Plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

NEDS, Site Specific Control Strategy,
Compliance/Regional Offices

RETENTION: N/A	**UPDATE REQUIRED** N/A

COMMENTS:

Available from PMO5 or CAPS
First 15 characters of Location-Pac + Loc-zip-pac

NAME: Contact

CATEGORY: Plant Identification

ALIAS:

Person contacted
Management-Name CMO4 } IN CMO4
Management-Title CMO4
Name-AD } in CAPS
Title-AD

SIZE: 12

TYPE: Alpha

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

NEDS, Site Specific Control Strategy,
Compliance/Regional Offices

RETENTION: N/A

UPDATE REQUIRED as needed

COMMENTS:

Not available PMO5
In CMO4-possible Management-Name
Management-Title

In CAPS-possible Name-AD
Title-AD

NAME: Ownership

CATEGORY: Plant Identification

ALIAS:

SIZE: 10

TYPE: Alphabetic

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control Strategy
- NEDS Reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Action Code

CATEGORY: Plant Identification

ALIAS:

SIZE: 1

TYPE: Alpha

DESCRIPTION:

Function to be performed in system update

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

A = Add data

C = Change (delete old data and insert new)

D = Delete data

JUSTIFICATION:

Compliance/Regional Offices
NEDS

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not in PM05, CM04, CAPS

NAME: Point Source Code	CATEGORY: Plant Identification

ALIAS:

SIZE: 1	TYPE: Alpha

DESCRIPTION:

Identifies as a point source as opposed to area source

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

P = point source

JUSTIFICATION:

NEDS

RETENTION:	UPDATE REQUIRED

COMMENTS:

Not in CAPS, PMO5, CMO4

NAME: Point Source Card Code

CATEGORY: Plant Identification

ALIAS:

SIZE:

TYPE: Alphanumeric

DESCRIPTION:

Defines card type and data category

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

A-K (currently-may be further expanded)

JUSTIFICATION:

NEDS

RETENTION:

UPDATE REQUIRED

COMMENTS:

Cards A, B, C, D, E, F will be changed to
Cards 1, 2, 3, 4, 5, for reporting to EPA

Not in CAPS, PM05, CM04

NAME: Company Name

CATEGORY: Plant Identification

ALIAS:

Issued-to	in PM05
Company-Name	in PM04
Source Name-AC	in CAPS
Issued-to-PAC	in CAPS

SIZE: 59

TYPE: Alpha

DESCRIPTION:

Name of company owning plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- NEDS
- Site specific Control Strategy
- Compliance/Regional Offices
- PSD modeling

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

NAME: Company Address

CATEGORY: Plant Identification

ALIAS:

Address in CMO4

SIZE: 38

TYPE: Alphanumeric

DESCRIPTION:

Address of owning company

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- NEDS
- Site Specific Control Strategy
- Compliance/Regional Offices

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Possible six lines of data
Possible could also be location in PMO5
In CAPS STREET-AC
NEAR CITY-PAC
could also be used in some cases

NAME: Telephone Number	**CATEGORY:** Plant Identication

ALIAS:

Management-Phone in CMO4
Phone-AD in CAPS
Contact Phone Number

SIZE: 10	**TYPE:** Alphanumeric

DESCRIPTION:

Plant contacts phone number

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- NEDS
- Site-specific control strategy
- Compliance/RO investigations

RETENTION: N/A	**UPDATE REQUIRED** As required

COMMENTS:

NAME: Longitude

CATEGORY: Plant Identification

ALIAS:

Long-N in PMO5
Long-PM in CAPS

SIZE: 7

TYPE: Numeric

DESCRIPTION:

Longitude of plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- NEDS reporting
- Site Specific Control Strategy
- Emissions Validation
- RFP reporting

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

Longitude of permit in CAPS

NAME: Latitude

CATEGORY: Plant Identification

ALIAS:

Lat-N in PMO5

Lat-PM in CAPS

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Longitude of plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- NEDS reporting
- Site specific control strategy
- Emissions Validation
- RFP reporting

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

Latitude of permit in CAPS

NAME: Primary Business of Plant

CATEGORY: Plant Identification

ALIAS:

Principle-Business-PAC in CAPS

SIZE: 42

TYPE: Alphanumeric

DESCRIPTION:

Principle business of Plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

Site Specific Control Strategy

Compliance/Regional Offices

PSD Modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Primary Products

CATEGORY: Plant Identification

ALIAS:
Business-Products in CM04

SIZE: 59

TYPE: Alphanumeric

DESCRIPTION:
Products by this plant

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:
Site Specific control Strategy

Compliance/Regional Offices

PSD Modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:
Not available in PM05 or CAPS

NAME: SIC Code	**CATEGORY:** Plant Identification

ALIAS:

SIC-CODE-PM in CAPS (6 possible codes)
SIC-CODES in PMO5 (6 possible codes)

SIZE: 4-3	**TYPE:** Numeric

DESCRIPTION:

Primary "Standard Industrial Classification" code for the account

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

See SIC codes

JUSTIFICATION:

Site specific control strategy

Compliance/Regional Offices

PSD Modeling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Permit Number

CATEGORY: Plant Identification

ALIAS:

SIZE:

TYPE:

DESCRIPTION:

Number of permit to operate (or construct) as assigned by the Permit Section of TACB

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- RFP reporting
- PSD modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Permit Issue Date

CATEGORY: Plant Identification

ALIAS:

SIZE:

TYPE:

DESCRIPTION:

Date operating permit issued

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO Investigations
- RFP reporting
- PSD modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Start Construction Date	**CATEGORY:** Plant Identification
ALIAS:	
SIZE:	**TYPE:**

DESCRIPTION:

Date construction was started as reported on the construction permit

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Standard date

JUSTIFICATION:

- Compliance/RO investigations
- RFP reporting
- PSD modeling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Start Operation Date

CATEGORY: Plant Identification

ALIAS:

SIZE:

TYPE:

DESCRIPTION:

Date operation of facility started as reported on the operating permit

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Standard date

JUSTIFICATION:

- Compliance/RO Investigations
- RFP reporting
- PSD modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: PSD Flag	CATEGORY: Plant Identification

ALIAS:

SIZE: 1	TYPE: X

DESCRIPTION:

A code identifying a point source as an increment consuming or baseline contributing source

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- PSD modeling

RETENTION:	UPDATE REQUIRED

COMMENTS:

The increment or baseline status of the point source can be best determined by the Permits Section of TACB

NAME: Point ID Number in Plant

CATEGORY: General Identification and Stack Data

ALIAS:

NEDS Point Number
NEDS-ID-PT in CAPS

SIZE: 2

TYPE: Alphanumeric

DESCRIPTION:

Identifier for several cards of data related to an operation within the plant

☒ Key ☐ Internal Use → ☐ Code

VALID VALUES:

01-99

then AA, AB, AC, . . . etc. . . ZZ

JUSTIFICATION:

- Compliance/RO investigations
- Emissions Validation
- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

E. I. needs to be able to assign new NEDS Point Numbers for points allowed to be construced through the permit system.
NEDS-ID-PT = 3 characters
Possibly found in NEDS-NUMBER of CM04

NAME: Emission Point Number	**CATEGORY:** General Identification and Stack data

ALIAS:

Emission-PT in CAPS

SIZE: 8	**TYPE:** Alpha

DESCRIPTION:

A companys' identification for their emission point

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Process Code	**CATEGORY:** General Identification and Stack Data

ALIAS:

IPP Code
Process num-PC in CAPS

SIZE: 2	**TYPE:** Numeric

DESCRIPTION:

A process identification code used in conjunction with specific SIC codes, the combination of which defines the specific process within the industrial classification.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Attached

JUSTIFICATION:

- NEDS reporting

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Also possible PROCESSNUM-TX in CAPS
This SIC-IPP Code combination can be cross referenced with SCC Code in almost all cases. If EPA definitely requires input of this IPP Code, a cross reference table could be developed between SCC and SIC-IPP.

A.4 IPP PROCESS IDENTIFICATION CODES

Process	Code	
Flour and other Grain Mill Products	2041	
Combustion		X*0
General		01
Wheat		02
Barley		03
Prepared Feeds for Animals and Fowls	2042	
Combustion		X0
General		01
Alfalfa		02
Roasted Coffee	2095	
Combustion		X0
Direct-Fired		01
Indirect-Fired		02
Stones and Cooler		03
Spray Cooler		04
Kraft Pulp Mills	2621	
Combustion		X0
Digester Blow System		01
Smelt Tank		02
Lime Kiln		03
Recovery Furnace		04

---

* For value of X, see following list for combustion code numbers.

Process	Code	
Kraft Pulp Mills	2621	
Multiple Effect Evaporator		05
Oxidation Tower		06
Industrial Inorganic Chemicals	2819	
Combustion		X0
Sulfur Recovery Incinerator		01
Sulfuric Acid		02
Nitric Acid		03
Ammonium Nitrate		04
Hydrofluoricacid		05
Calcium Carbide - Coke Dryer		06
Calcium Carbide - Electric Furnace Hood		07
Calcium Carbide - Electric Furnace Vents		08
Calcium Carbide Stack		09
Calcium Carbide Calcination		11
Phosphoric Acid		12
Inorganic Pigments	2816	
Combustion		X0
Calcination		01
Digestion		02
Chloride Process		03
Chloride Coke or Ore Drying		04
Ore Grinding		05
Titanium Oxide Ore Drying		06
Varnish Reaction Kettles		07
Paints, Varnishes, Lacquers, Enamels, and Allied Products	2851	
Combustion		X0
Varnish Cookers		01
Alkyd Resin		02
Cooking and Blowing		03

Process	Code
Paints, Varnishes, Lacquers, Enamels, and Allied Products	2851
Polymerization	04
Petroleum Refining	2911
Combustion	X0
Fluid Catalytic Units	01
Moving Bed Catalytic Units	02
Sulfur Recovery	03
Acid Refining of Lube Oils	04
Microfines Unit	05
Calciner Kiln	06
Fluid Cooker	07
Process Emission Source	08
Asphalt Batching	2951
Combustion	X0
Batching	01
Quarrying	02
Rock Drying	03
Sheet Rock Cutting and Trimming	04
Cement Manufacturing	3241
Combustion	X0
Dry Process	01
Wet Process	02
Sand Dryer	03
Lime Production	3274
Combustion	X0
Rotary Kiln	01
Vertical Kiln	02
Minerals and Earths, Treated	3295
Combustion	X0
Crushing	01

Process	Code
Minerals and Earths, Treated	3295
Conveying, Screening, and Shaking	02
Storage Piles	03
Iron and Steel Mills	3312
Combustion	XO
Blast Furnace	01
Basic Oxygen Furnace	02
Sintering	03
Coking Operations	04
Electric Arc Furnace	05
Open Hearth Furnace	06
Bessemer	07
Scarfing	08
Grey Iron Foundries	3321
Combustion	XO
Cupola	01
Electric Induction	02
Reverberatory Furnace	03
Steel Foundries	3323
Combustion	XO
Electric Arc	01
Electric Induction	02
Open Hearth	03
Primary Smelting and Refining of Lead	3332
Combustion	XO
Sintering	01
Blast Furnace	02
Reverberatory Furnace	03
Refining of Lead	04
Lead Oxide Manufacturing	05

Process	Code	
Secondary Smelting and Refining of Non-Ferrous Metals	3341	
Combustion		X0
Aluminum - Chlorination Station		01
Aluminum - Crucible Furnace		02
Aluminum - Reverberatory Furnace		03
Aluminum - Sweating Furnace		04
General Aluminum Operations		05
Brass and Bronze - Crucible Furnace		06
Brass and Bronze - Electric Furnace		07
Brass and Bronze - Reverberatory Furnace		08
Brass and Bronze - Rotary Furnace		09
Non-Ferrous Castings	3369	
Combustion		X0
Lead - Cupola		01
Lead Pot Furnace		02
Lead - Reverberatory and Sweating		03
Zinc - Galvanizing Kettles		04
Zinc - Calcine Kilns		05
Zinc - Pot Furnace		06
Zinc - Sweating Furnace		07
Zinc - Distillation Furnace		08
Refuse Systems	4953	
Combustion of fuel		X0
Municipal Incinerator		01
Open Burning		02
On-site Multichamber Incinerator		03
On-site Single Multichamber Incinerator		04
Flue Fed Incinerator		05
Other		06

COMBUSTION CODE NUMBERS

All not listed	00
Pulverized, general	10
Pulverized, dry bottom	20
Pulverized, wet bottom without flyash reinjection	30
Pulverized, wet bottom with flyash reinjection	40
Cyclone	50
Spreader stoker without flyash reinjection	60
Spreader stoker with flyash reinjection	70
All other stokers	80
Hand-fired	90

NAME: UTM Horizontal Coordinate

CATEGORY: General Identification and Stack Data

ALIAS:

(EASTMETERS-PT) ÷ 1000

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Carried in meters in CAPS and in kilometers in NEDS

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000.0-999.9

JUSTIFICATION:

- Compliance/RO investigations
- NEDS reporting
- Oxidant and PSD modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Can be determined from longitude and latitude

NAME: UTM Vertical Coordinate	**CATEGORY:** General Identification and Stack Data

ALIAS:

(NORTHMETERS-PT) ÷ 1000

Northmeters-PT in CAPS

SIZE: 5	**TYPE:** Numeric

DESCRIPTION:

Carried in meters in CAPS and in kilometers in NEDS

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000.0-9999.9

JUSTIFICATION:

- Compliance/RO investigations
- NEDS reporting
- Oxidant and PSD modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Can be determined from longitude and latitude

NAME: Stack Height

CATEGORY: General Identification and Stack Data

ALIAS:

HEIGHT-PT in CAPS

SIZE: 4

TYPE: Numeric

DESCRIPTION:

The physical height of a stack above ground level in feet

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000-9999

JUSTIFICATION:

- NEDS reporting
- Compliance/RO investigations
- Oxidant and PSD modeling

RETENTION: N/A

UPDATE REQUIRED As necessary

COMMENTS:

NAME: Stack Inside Equivalent Diameter at top

CATEGORY: General Identification and Stack Data

ALIAS:

Diameter-PT in CAPS

SIZE: 3

TYPE: Numeric

DESCRIPTION:

The inside diameter of a round stack at the top of the stack or the calculated equivalent diameter of a stack with a "non-round" exit point. Measured in feet

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00.0-99.9

JUSTIFICATION:

- NEDS reporting
- Emissions Validation
- Oxidant and PSD modeling

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

If "A" is the cross sectional area of the non-round exit the equivalent diameter=

$$D_e = 1,1283 \sqrt{A}$$

NAME: Stack Gas Temperature

CATEGORY: General Identification and Stack Data

ALIAS:

Stack Temperature
TEMP-PT in CAPS

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Temperature of the exhaust stream at the stack exit in °F

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000-2000

JUSTIFICATION:

- NEDS reporting
- Emissions Validation
- PSD and Oxidant modelling

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Not available in PM05 or CM04

NAME: Stack Gas Flow Rate	**CATEGORY:** General Identification and Stack Data

ALIAS:

ACFM
A-ACFM in PM05
Total Flow Rate

SIZE: 7	**TYPE:** Numeric

DESCRIPTION:

Actual cubic feet of gas flow per minute at exhaust temperature from a stack

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- NEDS reporting
- Emissions Validation
- PSD and Oxidant modelling

RETENTION: N/A	**UPDATE REQUIRED** As required

COMMENTS:

calculate from stack equivalent diameter and stack velocity. ACFM = 47.1238* velocity* $[(De)^2]$

NAME: Stack Velocity

CATEGORY: General Identification and Stack Data

ALIAS:

Velocity-PT in CAPS
Stack Gas Flow Rate

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Velocity of exhaust stream at stack exit in ft/sec

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000.0-9999.9

JUSTIFICATION:

- NEDS reporting
- PSD and Oxidant modelling

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Not available in PM05 or CM04

NAME: Plume Height

CATEGORY: General Identification and Stack Data

ALIAS:

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Measured in feet

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000 if stack height filled in
or actual plume height or
0030 if unknown

JUSTIFICATION:

- NEDS
- Compliance/Regional Offices
- Oxidant modeling

RETENTION: N/A

UPDATE REQUIRED N/A

COMMENTS:

Plume height = 0 if stack height has a value

Not available in CM04 or PM05

NAME: Points with Common Stack

CATEGORY: General Identification and Stack data

ALIAS:

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Sequence range of Neds Point numbers which all exit a common stack

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0102-ZYZZ (same as point ID number)

JUSTIFICATION:

- Compliance/Regional Offices
- NEDS
- Oxidant modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Possibly Grouping-PT of CAPS

NAME: Stream Composition	**CATEGORY:** General Identification and Stack Data

ALIAS:

Component in CAPS

SIZE: N/A	**TYPE:** N/A

DESCRIPTION:

Molecular weight and concentration and all components of stream such as nitrogen, carbon dioxide, contaminants and moisture.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

- Compliance/Regional Offices
- Emissions Validation
- Oxidant modeling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Molecular Weight

CATEGORY: General Identification and Stack Data

ALIAS:

MOLWT in CAPS

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Molecular Weight

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

- Emissions Validation
- Oxidant modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Concentration Rate

CATEGORY: General Identification and Stack Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Level of emissions associated with the preceeding "pollutant code" on the card having units of the following "units" on the card

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Emissions Validation
- Oxidant modelling
- PSD modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CAPS, PMO5 or CMO4

NAME: GAS ACFM

CATEGORY: General Identification and Stack Data

ALIAS:

Gas SCFM is measured at 70° F in CAPS SCFM is defined as standard rate of flow in cubic feet per minute

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Actual rate of flow of gas in cubic feet per minute at 70°F

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Control Strategy (future)
- Emissions Validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Particulate LB/HR	CATEGORY: General Identification and Stack Data

ALIAS:

SIZE: 6	TYPE: Numeric

DESCRIPTION:

Flow rate is aparticular in pounds/hour

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Control Strategy (future)
- Emissions Validation

RETENTION:	UPDATE REQUIRED

COMMENTS:

NAME: % Fines	CATEGORY: General Identification and Stack Data

ALIAS:

SIZE: 3	TYPE: Numeric

DESCRIPTION:

Percent of Particulates less than 5 MICRONS

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-100

JUSTIFICATION:

Control Strategy (future)

Emissions Validation

RETENTION:	UPDATE REQUIRED

COMMENTS:

NAME: Total Flowrate (tons/yr)	**CATEGORY:** General Identification and Stack Data

ALIAS:

Annual emissions
Actual annual emissions
Total flow rate

SIZE: 5	**TYPE:** numeric

DESCRIPTION:

Amount of annual admissions

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Control Strategy (future)
- Compliance/Regional Offices
- Emissions Validation
- Oxidant modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Not available in CAPS, PM05, CM04

NAME: % Design Capacity

CATEGORY: General Identification and Stack Data

ALIAS:

UTILFACT-CT (for Permit Units) In CAPS

or Actual operating rate as % of Design for existing units

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Ratio of actual operating rate to design throughout

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control Strategy (future)
- Compliance/Regional Offices
- Emissions Validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Pollutant Code	CATEGORY: General Identification and Stack Data

ALIAS:

COMTAMCODE-CT (for Permit Units) of CAPS

SIZE: 5	TYPE: Numeric

DESCRIPTION:

Specifics which specific pollutant or category of pollutants is being emitted

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

See Contaminant Table

JUSTIFICATION:

- Control Strategy (future)
- Emissions Validation

RETENTION:	UPDATE REQUIRED

COMMENTS:

Possible also obtained from Contaminant-Data or PMO5

NAME: Primary or Secondary Control Equipment Codes

CATEGORY: Control Equipment Data

ALIAS:

ABATE1-PC, ABATE2-PC, CODE-AB in CAPS
Control Equipment Code
A-CODE in PM05

SIZE: 3

TYPE: Numeric

DESCRIPTION:

EPA derived abatement codes. A code to describe the type of abatement equipment associated with the process for primary of secondary control of the five criteria pollutants

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

ATTACHED

JUSTIFICATION:

- NEDS reporting
- Control strategy development

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Need a cross reference between permits abatement codes and EPA reporting codes

A.3 CONTROL EQUIPMENT IDENTIFICATION CODES

Identification Number	Control Device/Method
000	No Equipment
001	Wet Scrubber - High Efficiency
002	Wet Scrubber - Medium Efficiency
003	Wet Scrubber - Low Efficiency
004	Gravity Collector - High Efficiency
005	Gravity Collector - Medium Efficiency
006	Gravity Collector - Low Efficiency
007	Centrifugal Collector - High Efficiency
008	Centrifugal Collector - Medium Efficiency
009	Centrifugal Collector - Low Efficiency
010	Electrostatic Precipitator - High Efficiency
011	Electrostatic Precipitator - Medium Efficiency
012	Electrostatic Precipitator - Low Efficiency
013	Gas Scrubber (general, not classified)
014	Mist Eliminator - High Velocity
015	Mist Eliminator - Low Velocity
016	Fabric Filter - High Temperature
017	Fabric Filter - Medium Temperature
018	Fabric Filter - Low Temperature
019	Catalytic Afterburner
020	Catalytic Afterburner with Heat Exchanger
021	Direct Flame Afterburner
022	Direct Flame Afterburner with Heat Exchanger
023	Flaring
039	Catalytic Oxidation - Flue Gas Desulfurization
040	Alkalized Alumina
041	Dry Limestone Injection
042	Wet Limestone Injection
043	Sulfuric Acid Plant - Contact Process
044	Sulfuric Acid Plant - Double Contact Process
045	Sulfur Plant
046	Process Change
047	Vapor Recovery System (including condensers, hooding, and other enclosures)
048	Activated Carbon Adsorption
049	Liquid Filtration System
050	Packed-Gas Absorption Column
051	Tray-Type Gas Absorption Column

Identification Number:	Control Device/Method:
052	Spray Tower (Gaseous Control Only)
053	Venturi Scrubber (Gaseous Control Only)

For the particulate control devices (wet scrubbers, gravity collectors, centrifugal collectors, and electrostatic precipitators), the efficiency ranges correspond to the following percentages:

High:	95 - 99 +
Medium:	80 - 95
Low:	<80

NAME: Control Number

CATEGORY: Control Equipment Data

ALIAS:

Permit-Unit-Id-No in PM05
Source-number-AC in CAPS

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Identification number of emitting unit

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

NEDS

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

NAME: Estimated Contol Efficiency

CATEGORY: Control Equipment Data

ALIAS:

Percent Control Efficiency

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Overall level of control accomplished for each pollutant by the associate and abatement control equipment

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00.0-99.9

JUSTIFICATION:

- NEDS reporting
- Compliance/RO investigations
- Control strategy development

RETENTION: N/A

UPDATE REQUIRED

COMMENTS:

Primary % + (100 - Primary %) $\left(\frac{\text{secondary \%}}{100}\right)$ = overall %

NAME: Pollutants Controlled	**CATEGORY:** Control Equipment Data
ALIAS:	
SIZE: 5	**TYPE:** Numeric

DESCRIPTION:

Define specific pollutant or category of pollutants emitted. (see data dictionary for "pollutant code" data element)

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Same as "Pollutant Code"

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Possibly available in CAPS using Abatements Data Set

NAME: Date Installed

CATEGORY: Control Equipment Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Date equipment was installed

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Standard Date

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Operating Cost	CATEGORY: Control Equipment Data

ALIAS:

SIZE: 8	TYPE: Numeric

DESCRIPTION:

Annual operating cost of the control equipment

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-99999999

JUSTIFICATION:

- Compliance/RO investigations
- PSD modeling

RETENTION:	UPDATE REQUIRED

COMMENTS:

NAME: Energy Consumed

CATEGORY: Control Equipment Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Amount of energy consumed by the control equipment in units indicated in 'energy units'.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Control strategy development

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Energy Units

CATEGORY: Control Equipment Data

ALIAS:

SIZE: 10

TYPE: Alphanumeric

DESCRIPTION:

Type energy units such as BTU, KWH

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

N/A

JUSTIFICATION:

- Control strategy development

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Total Installed Cost

CATEGORY: Control Equipment Data

ALIAS:

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Cost of installed Control Equipment in thousands of dollars

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000-9999

JUSTIFICATION:

- Control strategy development

RETENTION:

UPDATE REQUIRED

COMMENTS:

Can be obtained from CAPS using Quant-AB x Cost - AB

NAME: % of Annual Thruput by Season

CATEGORY: Emission Data

ALIAS:

Seasonal thruput
Dec. - Feb.
Mar. - May
Jun. - Aug.
Sept. - Nov.

SIZE: 2

TYPE: Numeric

DESCRIPTION:

The percent of annual production, consumption, or throughput by season
Seasons are defined in following data dictionary.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00-99

JUSTIFICATION:

- Compliance/RO investigations
- NEDS reporting
- All modelling

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

If unknown, assume 25

Total for all fields should = 100

NAME: Season

CATEGORY: Emission Data

ALIAS:

SIZE: 2

TYPE: Alphanumeric

DESCRIPTION:

Four Seasons of year for operation and emissions reporting

Winter = December-February
Spring = March-May
Summer = June-August
Fall = September-November

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

W
SP
S
F

JUSTIFICATION:

See "% of annual thruput by season" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

Used in conjunction with normal operating schedule

NAME: Normal Operating HR/DAY	CATEGORY: Emissions Data

ALIAS:

Hours-PC in CAPS
Oper-sched-hr-per day in PMO5

SIZE: 2	TYPE: Numeric

DESCRIPTION:

Indicates the number of hours per day the equipment is operating each day

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00-24

JUSTIFICATION:

- NEDS reporting
- Compliance/RO investigations
- All modelling

RETENTION: N/A	UPDATE REQUIRED As required

COMMENTS:

NAME: Normal Operating Days/Week	CATEGORY: Emissions Data

ALIAS:

oper-shed-week in PM05
DAYS-PC in CAPS

SIZE: 1	TYPE: Numeric

DESCRIPTION:

Days of operation per week

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1-7

JUSTIFICATION:

- NEDS reporting
- Compliance/RO investigations
- All modelling

RETENTION: N/A	UPDATE REQUIRED As required

COMMENTS:

NAME: Normal Operating Weeks/ Season

CATEGORY: Emissions Data

ALIAS:

Available in PMO5 as Oper-sched-Week-Year

available in CAPS as Weeks-PC on weeks/yr basis

SIZE: 2

TYPE: Numeric

DESCRIPTION:

Number of weeks operating each season

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00-99

JUSTIFICATION:

- Compliance/RO investigations
- NEDS reporting
- All modelling

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

NAME: Emissions Units

CATEGORY: Emissions Data

ALIAS:

SIZE: 7

TYPE: Alphanumeric

DESCRIPTION:

Type units for Emissions Estimates such as tons/year, lbs/hour

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

Supports "Emissions Estimate" data element

(see preceeding data dictionary)

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Emissions Estimate

CATEGORY: Emissions Data

ALIAS:

Annual pollutant emissions

SIZE: 7

TYPE: Numeric

DESCRIPTION:

Number of the criteria pollutants
Actually emitted
(Particulate , SO_2, NO_x, HC and CO)

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Control Strategy development
- RFP reporting
- Compliance/RO investigations
- All modelling
- NEDS reporting
- Emissions Validation

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Possibly available from PMO5 contaminant data
Possibly available from CAPS contaminant data

NAME: Method of Estimating Emissions	**CATEGORY:** Emissions Data

ALIAS:

Estimation Method Code

SIZE: 1	**TYPE:** Numeric

DESCRIPTION:

Type of estimation procedure used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

ATTACHED

JUSTIFICATION:

NEDS

RETENTION: N/A	**UPDATE REQUIRED** As required

COMMENTS:

Needs cross reference to permits codes

ESTIMATION METHOD CODE

Code	Description of Method	Permits Code
0	Not applicable or emissions are known to be zero	
1	Source test results or other emission measurements.	M = Measured
2	Material balance using engineering knowledge and expertise of process.	E = Estimated
3	Emissions computer calculated using emission factors in the SCC listing. No emission estimates need be coded on NEDS form.	
4	Guess.	
5	Emissions calculated using a special emission factor differing from that in the SCC listing.	C = Calculated
6	New source for which approval to construct has been given but at which operation has not yet begun. Emission estimates are zero.	U = Unknown
7	Sources ceasing operation. Emission estimates are zero.	

NAME: Emissions Point Type

CATEGORY: Emissions Data

ALIAS:

SIZE: 1

TYPE: Numeric

DESCRIPTION:

Type emission point

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1=Stack or Vent
2=Elevated Flake
3=Ground Flake
4=Open dump
5=Incinerator
6=Tank
7=Fugitive Emission
8=Cooling tower, pond, reservoir, lagoon, basin, seperators

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Stack Emissions Estimates

CATEGORY: Emissions Data

ALIAS:

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Emissions estimate for each stack

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1-9999

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

'Stack estimates' + 'Fugitive estimates' should equal 'Emissions Estimates'

NAME: Fugitive Emission Estimate	**CATEGORY:** Emissions Data

ALIAS:

Process fugitive
Fugitive amount

SIZE: 4	**TYPE:** Numeric

DESCRIPTION:

As area wide emission of a pollutant in tons per year which was estimated by the account

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0001-9999

JUSTIFICATION:

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Has to have a pollutant code associated with it to have a non-zero value.

Non vent emissions

NAME: Hazardous Emissions and Volatile Organic Solvent Emissions

CATEGORY: Emissions Data

ALIAS:

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Descriptive name of Hazardous Material

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Allowable Emissions

CATEGORY: Compliance Data

ALIAS:

Annual Allowable Emissions (tons/year)

SIZE: 7

TYPE: Numeric

DESCRIPTION:

Annual emissions in tons per year allowed by permit or regulation to be omitted for each of the five criteria pollutants.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

NEDS

RETENTION: N/A

UPDATE REQUIRED As required

COMMENTS:

Possibly available from PMO5 individual contaminant data

NAME: Source Compliance Status

CATEGORY: Compliance Data

ALIAS:

COMPLSTAT-CPT in CAPS

(Except code values have different meanings)

SIZE: 1

TYPE: Numeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Source Compliance Status	
In compliance	1 = 2, 3, 4, 5, 8, 9
Non-compliance, variance not given	2 = 1, 6
Non-compliance, variance given	3 = ?
Compliance status not know	4 = 7, 0

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

Possibly available from Source-Status in CMO4

NAME: Year, Month, Day of Compliance Status Update	CATEGORY: Compliance Data

ALIAS:

SCHEDULED-DT and ACTION CODE-DT

SIZE: 6	TYPE: Numeric

DESCRIPTION:

date of last update

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

STANDARD DATE

JUSTIFICATION:

RETENTION:	UPDATE REQUIRED

COMMENTS:

Possibly available from CAST-UPDATE in CM04

NAME: Month, Year Source must be in Compliance

CATEGORY: Compliance Data

ALIAS:

Combination of SCHEDULED-DT and ACTION CODE-DT from CAPS

SIZE: 4

TYPE: Numeric

DESCRIPTION:

Month and year source must be in compliance

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: SCC	**CATEGORY:** Operating Data

ALIAS:

SCC Number
SCC-Codes in PMO5
SCC-CODE-PM from CAPS (for permit updates)
SCCODE-1-PC
SCCODE-2-PC

SIZE: 8	**TYPE:** Numeric

DESCRIPTION:

SCC= Source Classification Code developed by EPA

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

See SCC table

JUSTIFICATION:

- Control strategy development
- NEDS reporting

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Process specific code

CAPS allows for 3 x(8) codes or 6 x(4) codes
PMO5 allows for 3 x(8) codes

NAME: Fuel, Process, or Solid Waste Operating Rate

CATEGORY: Operating Data

ALIAS:

Actual Annual Operating Rate

SIZE: 7

TYPE: Numeric

DESCRIPTION:

Number of units of annual thruput. The units associated with this number (tons, gallons, barrels, etc) depends on the SCC Number used.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions Validation
- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CAPS, PM05, CM04

NAME: Maximum Design Rate	**CATEGORY:** Operating Data

ALIAS:

Maximum Hourly design Rate

SIZE: 7	**TYPE:** Numeric

DESCRIPTION:

Upper operating limit that generally would not be exceeded in normal practice. Units associated with this number depends on the SCC Number used.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000.000-9999.999

JUSTIFICATION:

- Emissions validation
- NEDS reporting

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Not available in CAPS, PMO5, CMO4

NAME: Sulfur Content %	**CATEGORY:** Operating Data

ALIAS:

Weight Percent Sulfur

SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

Sulfur content of fuel or waste burned

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00.0 for "non-combustion" units

0.01-9.99 for SCC Numbers starting with a 1, 2, 390, or 5 (where fuel or waste is burned).

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- NEDS reporting

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Used to calculate uncontrolled SO_2 emissions from combustion units. Not available in PM05, CM04 or CAPS

NAME: Ash Content %

CATEGORY: Operating Data

ALIAS:

Weight Percent ASH

SIZE: 3

TYPE: Numeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00.0 for "non-combusion" units

00.1-99.9 for SCC Numbers starting with a 1, 2, 390, or 5 (where fuel or waste is burned)

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

Used to calculate uncontrolled particulate emissions from combustion units.
Not available in CMO4, PMO5, or CAPS

NAME: Heat Content

CATEGORY: Operating Data

ALIAS:

Heating value of fuel

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Millions of BTU per SCC Unit for SCC Numbers starting with a 1 or 2.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0 is SCC starts with 3, 4, 5, or 6 (other than 390)

00001-99999 if SCC starts with 1, 2, or 390

JUSTIFICATION:

- Compliance/RO investigation
- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CMO4, PMO5, or CAPS

NAME: Source

CATEGORY: Operating Data

ALIAS:

Source Code

SIZE: 1

TYPE: Alphabetic

DESCRIPTION:

Defines the general process category reported

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

	Can be generated from SCC Number starting w/
B = Boiler	1
P = Process	3
C = Other combustion unit	2
S = Solid waste	5

JUSTIFICATION:

- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CMO4, PMO5 or CAPS. This is a redundant code but currently required for EPA reporting. The code can be generated from the first number of the SCC Number as shown above.

NAME: Confidential Flag	CATEGORY: Operating Data
ALIAS:	
SIZE: 1	TYPE: Numeric

DESCRIPTION:

☒ Key ☐ Internal Use ☐ Code

VALID VALUES:

1 = Confidential

2 = Not confidential

JUSTIFICATION:

- Identify operating data to be maintained confidentially as requested by the source.

RETENTION:	UPDATE REQUIRED

COMMENTS:

NAME: Combustion Method

CATEGORY: Waste Disposal

ALIAS:

SIZE: 1

TYPE: Numeric

DESCRIPTION:

Code for type of burning facility used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1. Open burning
2. Single-chamber incinerator
3. Multiple-chamber incinerator
4. Other (specify)

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Quantity Burned

CATEGORY: Waste Disposal

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

May be repeated in one of three units:
1. lbs/hour
2. lbs/day
3. tons/year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0000000-9999999

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Units Burned

CATEGORY: Waste Disposal

ALIAS:

SIZE: 1

TYPE: Numeric

DESCRIPTION:

Specifies the type of units burned. Used with quantity burned.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1 = lbs/hour
2 = lbs/day
3 = tons/year

JUSTIFICATION:

- See "quantity burned" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Material Combusted

CATEGORY: Waste Disposal

ALIAS:

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Specific type of material being combusted. If it is a mixture, specify weight % of mixture.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Burn Schedule

CATEGORY: Waste Disposal

ALIAS:

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Must be reported in: 1. hours/day
2. days/year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Type of Unit	CATEGORY: Fuel Data
ALIAS:	
SIZE: 1	TYPE: Alphabetic

DESCRIPTION:

Type unit that fuel is burned in

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

S = Space heater
P = Process heater
B = Boiler
E = Stationary engines
T = Stationary Turbine
I = In-plant vehicle
O = Other

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validations

RETENTION:	UPDATE REQUIRED

COMMENTS:

NAME: Total Boiler Design Capacity

CATEGORY: Fuel Data

ALIAS:

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Rated heat input to a stream generator in millions of BTU/hour

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00000 for all other processes than boilers

00001-99999 for boilers

JUSTIFICATION:

- NEDS reporting

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CAPS, PM05, CM04

NAME: Type of Fuel Consumed

CATEGORY: Fuel Data

ALIAS:

SIZE: 1

TYPE: Alpha

DESCRIPTION:

Type of fuel burned

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Natural Gas = N
Distillute Oil = D
Residual Oil = R
Gasoline = G
Coal = C
Other = O

JUSTIFICATION:

- Control Strategy development
- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Quantity of Fuel	**CATEGORY:** Fuel Data
ALIAS:	
SIZE: 6	**TYPE:** Numeric

DESCRIPTION:

Amount of fuel burned

if type of fuel = N, it is in 1000 cubic feet
D or R or G it is in 1000 gallons
C it is in tons

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0-999999

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Material Stored

CATEGORY: Storage Tank Data

ALIAS:

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Description of material to be stored

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Pollutant Breakdown	**CATEGORY:** Storage Tank Data
ALIAS: Type Pollutant	
SIZE: 5	**TYPE:** Numeric
DESCRIPTION: Pollutant Code ☐ Key ☐ Internal Use ☐ Code	
VALID VALUES: See Pollutant Codes	
JUSTIFICATION: • Compliance/RO investigations	
RETENTION:	**UPDATE REQUIRED**
COMMENTS:	

NAME: Monthly Throughput

CATEGORY: Storage Tank Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Volume of thruput in thousands of gallons

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000000-999999

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Pollutant Code

CATEGORY: Storage Tank Data

ALIAS:

COMTAMCODE-CT (for permit units) in CAPS
POL-CODE in PMO5

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Specifies which specific pollutant or category of pollutants is being emitted.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00000-99999

JUSTIFICATION:

- Emissions validation
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Volume %

CATEGORY: Storage Tank Data

ALIAS:

Liquid volume percent of material stored

SIZE: 2

TYPE: Numeric

DESCRIPTION:

Liquid volume percent of a pollutant stored in a storage tank along with other hydrocarbons in a mixture.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

01-99
If only one pollutant stored in a tank then 99 implies use 100.

JUSTIFICATION:

- Emission validation
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Maximum of four values per point I.D. number.
Pollutant Code associated with this volume % must start with a 5.

NAME: Type of Tank Construction

CATEGORY: Storage Tank Data

ALIAS:

Type of storage tank construction

SIZE: 1

TYPE: Numeric

DESCRIPTION:

☐ Key ☒ Internal Use ☐ Code

VALID VALUES:

1 = Fixed roof
2 = Floating roof, single seal
3 = Floating roof, double seal
4 = Fixed roof with internal floater
5 = Pressure tank
6 = Underground

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

This is used as a pointer to determine which equation should be used to calculate emissions from the storage tank. Not available in CAPS, PMO5, CMO4

NAME: Capacity	CATEGORY: Storage Tank Data

ALIAS:

Tank capacity

SIZE: 6	TYPE: Numeric

DESCRIPTION:

Volume of a storage tank in thousands of gallons

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000000-999999

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation
- Oxidant modelling

RETENTION:	UPDATE REQUIRED

COMMENTS:

Not available in CAPS, PMO5, CMO4

NAME: Diameter

CATEGORY: Storage Tank Data

ALIAS:

Tank Diameter

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Physical diameter in feet of a storage tank

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

001-999

JUSTIFICATION:

- Emissions validation
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CMO4, PMO5, or CAPS

NAME: True Vapor Pressure	CATEGORY: Storage Tank Data

ALIAS:

PSIA

SIZE: 3	TYPE: Numeric

DESCRIPTION:

Vapor pressure of the hydrocarbon in PSIA at the storage conditions

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00.0-14.7 if not a pressure tank (type 5)

Could be as high as 99.9 for pressure tank

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation
- Oxidant modelling

RETENTION:	UPDATE REQUIRED

COMMENTS:

Not available in CAPS, CMO4, PMO5

NAME: Vapor Molecular Weight	CATEGORY: Storage Tank Data

ALIAS:

SIZE: 4	TYPE: Numeric

DESCRIPTION:

Molecular weight of the vapor

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

16.0-999.9

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation
- Oxidant modelling

RETENTION:	UPDATE REQUIRED

COMMENTS:

Not available in PMO5, CMO4, CAPS

Required for storage tank and loading emission calculations.

NAME: Control Pressure

CATEGORY: Storage Tank Data

ALIAS:

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Back pressure maintained on a storage tank in PSIG.
(pound per square inch gauge)

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-999

JUSTIFICATION:

- Emissions validations
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in CAPS, PMO4, CMO5

NAME: Color Code	**CATEGORY:** Storage Tank Data

ALIAS:

Tank Color for Fixed Roof Tank

SIZE: 1	**TYPE:** Numeric

DESCRIPTION:

Same as Alias

☐ Key ☒ Internal Use ☐ Code

VALID VALUES:

Value	Roof Color- Shell Color	Value	Roof Color- Shell Color	Value	Roof/ Shell C.
1	white-white	4	alum(spec)/alum(spec)	7	white/gray
2	alum(spec)/white	5	white/alum(diffuse)	8	lt.gra./lt.g.
3	white-alum(spec)	6	alum(diff)/alum(diff)	9	md.gra/md.g.

JUSTIFICATION:

- Control strategy development
- Emissions validation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Not available in CAPS, PMO5, CMO4. Pointer to determine which factor from attached table should be used in calculating breathing loss emissions from fixed roof storage tanks(type = 1). Used in conjunction with "paint condition".

Table 4.3-2. PAINT FACTORS FOR FIXED ROOF TANKS[2]

Tank color		Paint factors (F_p)	
		Paint condition	
Roof	Shell	Good	Poor
White	White	1.00	1.15
Aluminum (specular)	White	1.04	1.18
White	Aluminum (specular)	1.16	1.24
Aluminum (specular)	Aluminum (specular)	1.20	1.29
White	Aluminum (diffuse)	1.30	1.38
Aluminum (diffuse)	Aluminum (diffuse)	1.39	1.46
White	Gray	1.30	1.38
Light gray	Light gray	1.33	1.44[a]
Medium gray	Medium gray	1.40	1.58[a]

[a] Estimated from the ratios of the seven preceding paint factors.

NAME: Paint Condition

CATEGORY: Storage Tank Data

ALIAS:

SIZE: 1

TYPE: Alphabetic

DESCRIPTION:

Condition of paint on storage tank

☐ Key ☒ Internal Use ☐ Code

VALID VALUES:

G = Good

P = Poor

JUSTIFICATION:

- Control strategy development
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

Not available in PMO5, CMO4, CAPS
See "color code"

NAME: Average Outage	**CATEGORY:** Storage Tank Data

ALIAS:

Average Vapor Space Height

SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

Average Distance from tank roof to liquid surface in feet

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-999

JUSTIFICATION:

- Emission validation
- Oxidant modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Not available in CMO4, PMO5, CAPS. SEE ATTACHED SHEET. Used in calculation of fixed roof (type - 1) breathing losses.

$$\frac{170.2191 * \text{Capacity}}{(\text{Diameter})**2} = \text{Tank wall height (feet)}$$

If vapor space not filled in, use value of ½ the tank wall height.

NAME: Liquid Temperature (^{o}F)

CATEGORY: VOC Transfer Data

ALIAS:

SIZE: 2

TYPE: Numeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00-999

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: S Factor	CATEGORY: VOC Transfer Data

ALIAS:

Saturation Factor

SIZE: 3	TYPE: Numeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0.20-1.45 (see attached table)

JUSTIFICATION:

RETENTION:	UPDATE REQUIRED

COMMENTS:

Used in calculation of uncontrolled emissions from the loading operations shown in the attached table. Questionaires may be set up so an "X" placed in a box would allow the computer to assign the appropriate S factor.

Table 4.4-1. S FACTORS FOR CALCULATING PETROLEUM LOADING LOSSES

Cargo carrier	Mode of operation	S factor
Tank trucks and tank cars	Submerged loading of a clean cargo tank	0.50
	Splash loading of a clean cargo tank	1.45
	Submerged loading: normal dedicated service	0.60
	Splash loading: normal dedicated service	1.45
	Submerged loading: dedicated, vapor balance service	1.00
	Splash loading: dedicated, vapor balance service	1.00
Marine vessels[a]	Submerged loading: ships	0.2
	Submerged loading: barges	0.5

[a] To be used for products other than gasoline; use factors from Table 4.4-2 for marine loading of gasoline.

NAME: Type of Transfer

CATEGORY: VOC Transfer Data

ALIAS:

SIZE: 1

TYPE: Numeric

DESCRIPTION:

Type vehicle used to transport material

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1 = Car
2 = Truck
3 = Ship
4 = Barges

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Name of Material	**CATEGORY:** VOC Transfer Data
ALIAS:	
SIZE: 20	**TYPE:** Alphanumeric

DESCRIPTION:

Description of material to be transferred

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Type of Vapor Control Equip.	**CATEGORY:** VOC Transfer Data
ALIAS:	
SIZE: 1	**TYPE:** Numeric

DESCRIPTION:

Code for Type of Vapor control equipment

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1 = Flare
2 = Vapor recovery unit
3 = Refrigeration
4 = Water Blanket

JUSTIFICATION:

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Efficiency of Vapor Control Equipment	**CATEGORY:** VOC Transfer Data
ALIAS:	
SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

% Efficiency of vapor control device

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Vapor Loss

CATEGORY: VOC Transfer Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Co. supplied number in tons/year
TACB may verify

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Solvent Purchased

CATEGORY: Degreasing Data

ALIAS:

Degreasing solvent purchased and quantity used

SIZE: 6

TYPE: Numeric

DESCRIPTION:

thousands of gallons of degreasing solvent purchased during the year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

Used in conjunction with solvent reprocessed and solvent density to calculate uncontrolled hydrocarbon emissions from degreasing operations where SCC range is 40100201-40100299

NAME: Solvent Reprocessed	**CATEGORY:** Degreasing Data

ALIAS:

SIZE: 6	**TYPE:** Numeric

DESCRIPTION:

thousands of gallons of solvent reprocessed for additional use.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Emissions validations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Solvent Density

CATEGORY: Degreasing Data

ALIAS:

Density

SIZE: 3

TYPE: Numeric

DESCRIPTION:

Pounds of solvent per gallon

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-999

JUSTIFICATION:

- Emissions Validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

See "solvent purchased". Not available in CAPS, CM04, PM05

NAME: Fugitive Amount	**CATEGORY:** Surface Coating Data

ALIAS:

Process fugitive

SIZE: 4	**TYPE:** Numeric

DESCRIPTION:

An area wide emission of a pollutant in tons per year which was estimated by the account.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

0001-9999

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation
- Oxidant modelling (optional)

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Has to have a pollutant code associated with it to have a non-zero value. Not available in CAPS, PM05, CM04

NAME: Solvent in Coating	**CATEGORY:** Surface Coating Data

ALIAS:

Solvent weight and percent
weight % Solvent (hydrocarbon)

SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

Hydrocarbon content of paint, varnish, laquer, or whatever coating is applied.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

Used to calculate hydrocarbon loss from surface coating operations where the SCC ranges from 40200101-40200701
Not available in CAPS, CMO4, PMO5

NAME: Quantity Used

CATEGORY: Surface Coating Data

ALIAS:

SIZE:

TYPE:

DESCRIPTION:

Quantity of pint ink or solvent used per year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Type of Paint/Ink/Solvent

CATEGORY: Surface Coating Data

ALIAS:

SIZE: 2

TYPE: Numeric

DESCRIPTION:

Desribes whether paint, ink, or solvent is water-based or oil-based

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

1st character	2nd character
1 = paint	1 = water based
2 = ink	2 = oil based
3 = solvent	

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Source

CATEGORY: Process Fugitive Data

ALIAS:

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Brief description of process emitting fugitive pollutants

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Process Name/Description	**CATEGORY:** Process Data

ALIAS:

SIZE: 20	**TYPE:** Alphanumeric

DESCRIPTION:

General and brief description of the process

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigation
- Emission validation
- PSD modeling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

The description should be supported by a simple block diagram depicting the major equipment or sub processes with the process.

NAME: Maximum or Design Production Capacity

CATEGORY: Process Data

ALIAS:

SIZE: 10

TYPE: Numeric

DESCRIPTION:

Maximum production capacity expressed on a product output per hour basis for a discreet process

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/R.O. investigations
- Emission validation
- PSD modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Operating Rate by Season	**CATEGORY:** Process Data
ALIAS:	
SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

Percent of maximum capacity by season

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-999

JUSTIFICATION:

- Compliance/RO investigation
- Emissions validation
- Ovidant and PSD modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Operating Schedule

CATEGORY: Process Data

ALIAS:

Normal operating hrs/day
Normal operating days/wk
Normal operating wks/mo

SIZE:

TYPE:

DESCRIPTION:

Operations schedules described in

- hrs/day
- day/wk
- wks/mo

☐ **Key** ☐ **Internal Use** ☐ **Code**

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation
- Oxidant and PSD modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Material Feed

CATEGORY: Process Data

ALIAS:

Raw material used

SIZE: 20

TYPE: Alphanumeric

DESCRIPTION:

Description of raw material used in the process

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation
- Oxidant and PSD modeling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Material Quantity

CATEGORY: Process Data

ALIAS:

Amount raw material used

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Amount used in the process in units described in material units.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Material Units

CATEGORY: Process Data

ALIAS:

SIZE: 10

TYPE: Alphanumeric

DESCRIPTION:

Type units used in conjunction with material quantity

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Process Product/Quantity	**CATEGORY:** Process Data

ALIAS:

SIZE: 6	**TYPE:** Numeric

DESCRIPTION:

Amount of product produced in units defined in product units.

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations
- Emissions validations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Product Material

CATEGORY: Process Data

ALIAS:

SIZE: 20

TYPE: Alphabetic

DESCRIPTION:

Output product material for a process

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "process product/quantity" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Product Units	**CATEGORY:** Process Data
ALIAS:	
SIZE: 10	**TYPE:** Alphabetic

DESCRIPTION:

Units of measure used with Process Product Quantity

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- See "Process product/quantity" data element dictionary

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Projection of Expansion

CATEGORY: Projection Data

ALIAS:

SIZE: 100

TYPE: Alphanumeric

DESCRIPTION:

Description of projected excusion

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Projection of Process Changes

CATEGORY: Projection Data

ALIAS:

SIZE: 100

TYPE: Alphanumeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Conversion to Alt. Energy Source	**CATEGORY:** Projection Data
ALIAS:	
SIZE: 100	**TYPE:** Numeric

DESCRIPTION:

Description of planned conversion to another energy source

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Process Unit Permanent Shutdown Date	**CATEGORY:** Projection Data

ALIAS:

SIZE: 6	**TYPE:** Numeric

DESCRIPTION:

Date of projected shutdown

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Standard Date

JUSTIFICATION:

- Control strategy development
- Compliance/RO investigation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Process Unit Permanent Shutdown	**CATEGORY:** Projection Data
ALIAS:	
SIZE: 10	**TYPE:** Alphabetic

DESCRIPTION:

Unit identifier for projected shutdown

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "Process Unit permanent shutdown date" data element dictonary

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Change in Ababement Equipment

CATEGORY: Projection Data

ALIAS:

SIZE: 100

TYPE: Alphabetic

DESCRIPTION:

Description of projected changes in abatement equipment

☐ **Key** ☐ **Internal Use** ☐ **Code**

VALID VALUES:

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Date of Change

CATEGORY: Projection Data

ALIAS:

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Date of projected change

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Standard Date

JUSTIFICATION:

- Compliance/RO investigations

RETENTION:

UPDATE REQUIRED

COMMENTS:

Standard date editing

NAME: Residential Fuel Amount	**CATEGORY:** Area Source
ALIAS:	
SIZE: 5	**TYPE:** Numeric

DESCRIPTION:

Amount of fuel used per year
If gas in millions of cubic feet
If oil in gallons per year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "Residential Fuel Type" data element dictionary

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Residential Fuel Type	**CATEGORY:** Area Source
ALIAS:	
SIZE: 1	**TYPE:** Alphanumeric

DESCRIPTION:

Code for fuel type of vehicle used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Automobile = A
Light Truck = L
Heavy Truck = H
Motorcycle = M
Heavy Diesel Truck = D

JUSTIFICATION:

- Emissions validations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Population	**CATEGORY:** Area Source
ALIAS:	
SIZE: 7	**TYPE:** Numeric

DESCRIPTION:

Population of county area

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emission validations
- RFP reporting
- Oxidant modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Projected Population

CATEGORY: Area Source

ALIAS:

SIZE: 7

TYPE: Numeric

DESCRIPTION:

Projection for a given year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "Population" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Projection Year

CATEGORY: Area Source

ALIAS:

SIZE: 2

TYPE: Numeric

DESCRIPTION:

Last 2 digits of year a projection if for, ie. 79 = 1979

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00-99

JUSTIFICATION:

See "Population" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Commerical/Industrial Fuel Type	**CATEGORY:** Area Source
ALIAS:	
SIZE: 1	**TYPE:** Alphabetic

DESCRIPTION:

Type of fuel used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

G = Gas

O = Oil

L = LPG

JUSTIFICATION:

- Emissions validations

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Commercial/Industrial Fuel Amount

CATEGORY: Area Source

ALIAS:

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Amount of fuel used annually
If gas in millions cubic feet
If LPG in gallons
If oil in gallons

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "Commerical/Industrial Fuel Type" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Irrigated Land

CATEGORY: Area Source

ALIAS:

SIZE: 5

TYPE: Numeric

DESCRIPTION:

Number of acres under irrigation

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

00000-99999

JUSTIFICATION:

- Emission validation

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Vehicle Miles Traveled

CATEGORY: Area Source

ALIAS:

- VMT

SIZE: 6

TYPE: Numeric

DESCRIPTION:

Number of miles traveled per year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emissions validation
- RFP reporting
- Oxidant modelling

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Vehicle Type

CATEGORY: Area Source

ALIAS:

SIZE: 1

TYPE: Alphanumeric

DESCRIPTION:

Code type of vehicle used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

Automobile = A
Light Truck = L
Heavy Truck = H
Motorcycle = M
Heavy Diesel Truck = D

JUSTIFICATION:

See "Vehicle mile traveled" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: U/R Miles

CATEGORY: Area Source

ALIAS:

Type 6 miles

SIZE: 1

TYPE: Alphabetic

DESCRIPTION:

Urban or Rural miles for travel and roads

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

R = Rural

U = Urban

JUSTIFICATION:

See "vehicle miles traveled" data element dictionary

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Speed	**CATEGORY:** Area Source
ALIAS:	
SIZE: 3	**TYPE:** Numeric

DESCRIPTION:

Speed of vehicles by type of vehicle

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

000-999

JUSTIFICATION:

See "vehicle miles traveled" data element dictionary

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Motorcycles Registered	**CATEGORY:** Area Source
ALIAS:	
SIZE: 5	**TYPE:** Numeric

DESCRIPTION:

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Emissions validations
- RFP reporting
- Oxidant modelling

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Off Highway Vehicles	**CATEGORY:** Area Sources

ALIAS:

SIZE: 2	**TYPE:** Alphabetic

DESCRIPTION:

Code for type of fuel consumed by

- Office highway vehicles
- Rail
- Vessels

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

OD = Off highway diesel
OG = Off highway gas
UG = vessel gas
UD = vessel diesel
RD = Rail diesel

JUSTIFICATION:

- Emissions validations
- Control strategy development

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Gallons Used	**CATEGORY:** Area Sources
ALIAS:	
SIZE: 9	**TYPE:** Numeric

DESCRIPTION:

Number of gallons of fuel per year used

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

See "Type gallons used" data element dictionary

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Civil Aircraft Landings/ Takeoffs	**CATEGORY:** Area Sources
ALIAS:	
SIZE: 6	**TYPE:** Numeric

DESCRIPTION:

Number of Civil aircraft landings and takeoffs per year

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emissions validation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Fuel Handling Evaporation	**CATEGORY:** Area Source

ALIAS:

SIZE: 9	**TYPE:** Numeric

DESCRIPTION:

Number of gallons of fuel transformed per year in thousands

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emissions validation

RETENTION:	**UPDATE REQUIRED**

COMMENTS:

NAME: Agricultural Tilling

CATEGORY: Area Source

ALIAS:

SIZE: 9

TYPE: Numeric

DESCRIPTION:

Number of agricultural acres being tilled

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emissions validations

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Unpaved Roads

CATEGORY: Area Source

ALIAS:

SIZE: 9

TYPE: Numeric

DESCRIPTION:

Number of miles of unpaved road

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Emissions validations
- Control strategy development

RETENTION:

UPDATE REQUIRED

COMMENTS:

NAME: Paved Roads

CATEGORY: Area Source

ALIAS:

SIZE: 9

TYPE: Numeric

DESCRIPTION:

Number of vehicle miles traveled on pavement

☐ Key ☐ Internal Use ☐ Code

VALID VALUES:

JUSTIFICATION:

- Control strategy development
- Emissions validations

RETENTION:

UPDATE REQUIRED

COMMENTS:

APPENDIX III

LIST OF PHASE II INTERVIEWEES

APPENDIX III

During Phase II, interviews were conducted with personnel at TACB, EPA, local air control agencies, industry and other Texas state agencies. Individuals interviewed and the basic subject of these interviews are listed below:

TACB - Central Office

Hank Sievers - Control Strategy development, RFP
Jim Meyers - Permits system
Andy Wheatley - Control Strategy development
Rich Lee - Compliance, RFP
Herb Williams - Compliance, RFP
Randy Thomas - RFP
Bill Smalling - Control Strategy
Carl Snow - Emission data validation
Wayne Burnop - Emission data validation, modelling
Jim Gise - Emission Inventory
Jim Meyers - Data Processing

TACB - Regional Office

Sabino Gomez - Houston E.I. data requirements
Nick Peet - Industry information submittals
Melvin Lewis - Fort Worth E.I. data requirements

MPO's

Bill Kopecky - HGAC - Mobile Source Inventory

Local Grant Agencies

Jesus Reynoso - Data collection methodologies (El Paso)
Dr. Ed Ibert - Data collection methodologies (Galveston County)
Walter Harrison - Data collection methodologies (San Antonio)
Jim Webb - Data collection methodologies (Ft. Worth)
James Scarberry - Data collection methodologies (Ft. Worth)
Milt Pandres - Data collection methodologies (Dallas)
Dallas Evans - Data collection methodologies (Houston)

EPA - Region VI

Jerry Stubberfield - RFP
Gordon Scruggs - RFP
Robert Jones - RFP, PSD
Miguel Flores - PSD
Randy Brown - PSD
John Bunyak - PSD
George Kennedy - local agency grants

EPA - Research Triangle Park

Jerry Gibson - EKMA modelling
John Calcagni - EKMA modelling

EPA Contractor

John Trijonis - EKMA modelling

Industry Representatives

Chuck River - Industry information submittals (Shell)
Bill Beck - Industry information submittals (Dupont)
Jim Cox - Industry information submittals (Exxon)

Other Texas State Agencies - (Area Source Information)

Noma Gold - Texas Aeronautical Commission
Rod Moe - Highway Department
John Wagner - Highway Department
Fred Studty - Highway Department
Ben Barton - Highway Department
Jim Sparks - Highway Department
Bill McRay - Comptroller
Don Lawrence - Comptroller